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YEAR BOOK
1932

PROCEEDINGS OF THE
THIRTEENTH INTERNATIONAL COST CONFERENCE

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SESSION I

THE TREND OF ACCOUNTING IN THE FUTURE MANAGEMENT OF AMERICAN INDUSTRY

TUESDAY MORNING, JUNE 14, 1932

ERIC A. CAMMAN, Partner, Peat, Marwick, Mitchell and Company, New York City, Chairman.

Presiding Officer at all sessions, President THOMAS H. SANDERS, Professor of Industrial Accounting, Harvard School of Business Administration, Cambridge, Massachusetts.

PROGRAM COMMITTEE

PHILIP J. WARNER, President, *Ronald Press,* New York City, Chairman.
ERIC A. CAMMAN, Partner, *Peat, Marwick, Mitchell and Company,* New York City.
HOWARD C. GREER, Director of Accounting, *Institute of American Meat Packers,* Chicago, Illinois.
LEWIS D. CRUSOE, Controller, *Fisher Body Corporation,* Detroit, Michigan.

L. A. Miller began his business career as secretary to a general superintendent of the Pennsylvania Railroad in 1903 and remained in that position until 1909. From 1909 to 1915 he was engaged in efficiency work with the Curtis Publishing Company. Since 1915 he has held the following positions with the Willys-Overland Company, Detroit, Michigan: Office Manager, Assistant to First Vice President, Secretary, First Vice President, and President. He is President of Willys-Overland Branches, Inc., Willys Export Corp., Willys-Overland Pacific Company and Knight American Patents Company. He is also Vice President of the following companies. The Willys-Morrow Company, Willys-Overland, Limited, Willys-Overland Sales Company, Limited, Toledo & Western Railway Company, Willys-Overland, Inc. of Illinois, and the Willys-Overland Inc. of Pennsylvania. Mr. Miller is a member of the Board of Directors of the Wilson Foundry and Machine Company, as well as of all the other companies named above.

Paul W. Pinkerton was graduated from the University of Chicago in 1908. He spent the next six years in Colorado as a member of the firm, Foster & Pinkerton, Civil Engineers. He was employed as cost engineer on the construction of the Grand Trunk Pacific Railroad through Northern British Columbia during 1911-1912. He was chief engineer for the Grand Mesa Irrigation Canal Company and the Lilylands Canal and Reservoir Company from 1912 to 1914 when he was made president of the latter company, which position he held until he joined the United States Army in 1918. From 1919 to 1924 he was a member of the firm, Coffield, Sanders & Company, Certified Public Accountants, Indianapolis, Ind., and from 1925 to 1929 he was a member of the firm, Ellis, Pinkerton & Company, Certified Public Accountants, Chicago, Ill. From 1929 to 1932 he was controller of Ainsworth Manufacturing Corp., Detroit, which position he gave up to become a partner in the public accounting firm of Haskins & Sells, at Pittsburgh, Pa. Mr Pinkerton is a Certified Public Accountant of Indiana and Michigan. He was Chairman of the Federal Tax Committee, Illinois Chamber of Commerce, 1927-1928, and has addressed many accounting bodies, including the International Accountants' Conference, New York, 1929. He is author or co-author of many books on accounting and is a member of many organizations and clubs. He was Vice President of the Detroit Chapter, National Association of Cost Accountants, 1930-1931.

William L. Batt was graduated from Purdue University, Lafayette, Indiana, with the degree of Mechanical Engineer, in 1907. Shortly after his graduation he became associated with the Hess-Bright Manufacturing Company, and in 1917 became General Manager. In 1918, following the consolidation of SKF Ball Bearing Company, The Hess-Bright Manufacturing Company, Atlas Ball Company and certain other properties, he became Vice President of SKF Industries, Inc.; in 1922 he became its President. In 1923 Mr. Batt was elected a member of the Board of Directors of The Swedish Chamber of Commerce of the U. S A.; in 1925 he was elected Vice President, which office he still holds. He also represents the American interests of several Swedish companies, including Orrefors Glass Works, A. B. Volvo, Automobile Manufacturers and others. For his interest and activity in promoting commercial relations with Sweden, King Gustaf V of Sweden in 1926 conferred upon Mr. Batt the decoration of the Order of Vasa. He is Chairman of the Board of Directors of The Air Preheater Corp. of Wellsville, N. Y., a Manager of the American Society of Mechanical Engineers and a member of several committees. He is also interested in the work of The Society of Automotive Engineers and is a member of their Finance Committee.

THE TREND OF ACCOUNTING IN THE FUTURE MANAGEMENT OF AMERICAN INDUSTRY

The opening session of the Thirteenth Annual Convention of the National Association of Cost Accountants convened in the Book-Cadillac Hotel, Detroit, Michigan, at nine forty-five o'clock, Tuesday morning, June 14, 1932, Dr. T. H. Sanders, Professor of Industrial Accounting, Harvard School of Business Administration, Cambridge, Mass., President of the Association, presiding.

PRESIDENT SANDERS: It is my duty and pleasure to welcome the Thirteenth Annual Convention of the National Association of Cost Accountants, and I wish at the very outset to sound a happy note of reasonable optimism. We are met in a time of difficulty and distress. All of us are aware of the seriousness of the situation. I do not wish to minimize this seriousness, nor to deny that there are certain new aspects to our problems which still remain to be worked out. But since this country became a nation, we have gone through twenty major depressions; nineteen of these have already been succeeded by periods of prosperity, and each such period has usually excelled the preceding one, so that the general movement has been upward. There is no reason to believe that this general trend will be changed.

It is because of the different nature of our problems that they now appear so distressing, but in point of fact we are not more troubled or distressed than our forefathers have been in the past, or than the people of other nations have been. They were confronted with actual shortages of food and other necessaries of life; we are confronted with such an abundant excess of all these things that our machinery of distribution has not been able to cope with them. But we shall make it able. Credit is a new and tremendous instrument; we have not learned fully how to manage it; but, in general, it is a necessary and beneficent thing, and we shall learn to make it work for our good. We have the same kind of people, and more of them

than we have always had; they have the same energy, ability, and resourcefulness, and the same material wealth. I do not wish to talk in any spirit of artificial optimism, but only to express the reasonable hope which is clearly justified by all history and supported by the present facts. It is therefore my hope that during the present convention as little reference as possible shall be made to the depression, and no time at all devoted to bewailing present conditions. Let us rather consider that we have certain problems to be solved and devote all our energy to that end.

This leads to a second thought. This Association has always stood for better management in business, and has always believed that better management required a better knowledge and understanding of the facts. Certainly the greatest single cause of present conditions is the repeated failure of human management. We can pass over the war with its vast expenditures for nonproductive purposes. The enormous sums which have since been added to those foreign debts in the shape of loans made by our bankers were, it is now clear, not based upon an adequate knowledge of the facts. In the exuberance of the new era many unsound enterprises were undertaken, and many sound enterprises have been expanded to an unwise degree.

We do not for a moment claim that accounting analysis is a substitute for business management, but certainly the judgment element in business management can not be properly supplied without the basis of fact which accounting analysis gives. We have every reason to be confident that discussions of the sort we are to have here this week will be a contribution to the solution of the problems facing all business.

The chief executives of several important manufacturing concerns are here to tell us the directions which business management is likely to take during the next five years; it is our duty as accountants to help to furnish the factual basis which will be needed by business management during this period. It is to learn to do this task well that we are met together, and not to lament about the difficulties of the way.

One other thought, and I have finished. It seems to be true that we learn much more from adversity than from prosperity—at least it is true that we learn to appreciate each other more and to get back to those fundamentals in human values and human relationships from which an era of prosperity is likely to separate us. The National Association of Cost Accountants, in addition to being an educational

and professional body, has always been a great brotherhood. If one of the results of these troubled times turns out to be that we get more of the real joys and satisfactions of life, simply from coming into contact with each other, and of working side by side, we shall surely find that what we have regarded as a period of loss and sorrow has brought gains and satisfactions of the most enduring kind.

It is my desire that these elements of human relationships shall be still further strengthened during this convention, and that we shall all rise above the surrounding anxieties to a firm determination to live through this period to happier days, brought about largely by our own faithfulness and the determination to go through.

With these remarks, I am going to ask Mr. E. A. Camman, a partner of Peat, Marwick, Mitchell & Company of New York, to take the chair.

MR. CAMMAN:

Mr. President, honorable guests, ladies and gentlemen:

President Sanders referred to this gathering as our Thirteenth Annual Meeting. The thought passes through my mind that it finds us entering a second decade in the life of our Association. During the first decade which ended three years ago, our growth in the Association has been in a period of expansion. Some feel now, perhaps, that the latter part of this period was one of over-expansion in our industries and commerce. However this may be, we, as an Association, have steadily progressed.

Now in the second decade of our development we must progress through quite different conditions. We are in a period of stock-taking, reconstruction, and planning for conservative advancement.

We meet this year in puzzling times; the intoxication of easy prosperity has worn off; the gambling fever has passed away. We awake to find relative values all upset, and face the necessity for getting back to fundamentals which are secure. This is not an easy task. Although we hear much about returning to the former ways; to the thrift and self-reliance of our fathers, which while it is all good in principle, it must be admitted that, to a large extent, former ways will not do today. We are no longer clearing virgin lands and struggling with natural forces. We are pioneering in the field of controlling the artificial forces which we have built up. We now realize that we cannot be independent, but are truly inter-dependent,

and must find the means for guiding the activities of many for the benefit of the many.

We have much unemployment. Everywhere men willing to work do not know where to turn to find it. I do not wish to be pessimistic. The reassuring thing about these conditions is that at the same time everywhere, men are thinking about the remedies. Our business leaders, our men of ability and experience throughout the country, are devoting thought and effort to working out plans for betterment in the present situation and for the prevention of a recurrence of these experiences. We have, for example, the plan of Gerard Swope for stabilization of employment and regularization of production. Incidentally, I read recently that this plan has been adopted by the National Electrical Manufacturers Association. We have also six or seven other plans with similar objects.

Henry Ford, in a recently published advertisement, advances the thought that before we can return to a reasonably secure normality, we must find a way of linking industry with agriculture. He advocates that the products of agriculture must become the raw materials of industry to restore ultimately a proper proportion in the prosperity of our industrial and agricultural groups of people. The idea contemplates a cycle far different from that described in the life of Wang Lung, by Pearl Buck in "The Good Earth."

This morning, however, we are not met to discuss national or international economic conditions. They are of interest, and therefore are referred to in passing, because in the prevailing conditions our need is to find, through the means at our disposal, the solution of our respective problems in order that we may each do our part toward the general welfare.

Your Committee on the arrangement of this program, in looking ahead to this morning's session, thought that it would be well to commence our meeting with an expression of views from industrial leaders as to the outlook for the immediate future; that is, as to what are the problems which lie ahead in business management during the next five years. We wished to enlist the experience of capable men who would give us their opinions on what is to be gained from the experience of the immediate past and what is to be visualized as the aim of the immediate future.

We were fortunate in obtaining representative men to speak to us this morning. Our first speaker, L. A. Miller, is a leader in American industry and a man of the type of which we are justly

proud in America. You all know that he is President of the Willys-Overland Company. Perhaps you all do not know that he has had accounting and cost accounting experience.

He was for six years, to 1909, engaged in secretarial and accounting work with the Pennsylvania Railroad. For the next six years, until 1915, he was cost accountant and assistant controller for the Curtis Publishing Company. From then forward for seventeen years to date he has been connected in many capacities with his present Company. Beginning as office manager, he became successively assistant to the vice president, secretary and director, first vice president, and president. He is also president and director in most, if not all, of the affiliated companies of the Willys-Overland Company.

It gives me great pleasure to present Mr. Miller.

THE TREND OF MANAGEMENT IN AMERICAN INDUSTRY FOR THE NEXT FIVE YEARS

L. A. MILLER

President

The Willys-Overland Company, Detroit, Mich.

I DEEM it an honor to be privileged to speak before this convention. I believe that I realize fully the part that you men must play in the work that is before industry and business. I have been informed that you are anxious to look ahead to the problems that confront industry and business, and I think it might be well to consider those problems for just a few minutes.

In the first place, I might say that these problems are known and have been known since early in 1930. Early in that year we all knew the causes of the troubles that were then upon us. And since that time, management, with your aid in your various organizations, has been meeting those problems, I think, most successfully. So while some might say that the problems ahead for the next four or five years are challenging and intriguing, I should say they are not.

We know the problems. In the first place, we know that we must avoid the causes of the present troubles. We know that those causes were over-expansion, over-production, over-indulgence, extravagance, and things of that kind. So we must avoid those things. I do not believe there is a business man today who hasn't mapped out his

course so that no matter how alluring a situation might be, he will avoid those causes.

In the second place, one of the big problems has been, and is, the liquidation or scrapping of unprofitable assets. That is going on all the time in large industries. It is recognized. It sometimes hurts our pride, but it must be done and is being done.

The third problem and the problem that is always with us is the elimination of waste of every kind, of effort as well as of material. That is always a problem and always will be a problem.

The fourth problem is the planning of production and policies so that they may have a still greater appeal to consumers. That is important in our reconstruction period.

Along with that, we must improve our merchandising plans, including the plan of distribution. A great deal of attention has been given to that during the past two years, particularly in the automobile industry, and I think before very long you will notice very great improvement in that direction.

A most important problem in the period ahead is that of improving quality and at the same time lowering costs. Much has also been done in that direction.

A seventh problem is that of stabilizing production. In many businesses it is true the demand is more or less seasonable. In some way, somehow, we must find a way of filling up the valleys to some extent and leveling off the peaks. That, I think, is one of the most important things that management must face. It can be done. Unfortunately, no great strides have been taken in that direction. It has a very important bearing upon the social and economic welfare of our country, and is a very important problem.

Another important problem is that of removing the fears of old age. Numerous plans have been suggested. Most that I know anything of are too complicated and require in some cases governmental action, which, in my opinion, is always bad. It seems to me that we are going to meet that problem through some simple plan and that we shall meet it very soon.

I think I have covered in a general way the problems that are facing industry and business. Now, how are we going to meet these problems? How have we been meeting these problems? We have been meeting them through our organizations. I understand that you are going to consider organization.

Everyone understands the functional organizations. I think many

feel that we have gotten away from the primary functions of the ideal organizations. We know in most businesses that we must have the engineering function, the purchasing function, the producing function, the selling function, and the accounting function, and along with all these, the general administrative function which has many ramifications.

It has been said that organizations have been over-manned. I think in many respects that is true, but probably there were good reasons in many times past for over-manning. What would now seem to be over-manning, probably in 1929 would not be considered over-manning. It might be said that management, during a period of success, became somewhat careless. Still I think, by and large, that there was no over-manning to any great degree. There was some good reason why each employee was engaged.

Now, of course, many of those reasons have disappeared, and it has been possible and necessary to curtail greatly all activities in relation to administrative functions. It has been necessary to eliminate the non-essential things. It has also been necessary to eliminate some things that were advisable but probably not necessary. Great strides have been taken in reducing all administrative expenses. In addition to this, great economy has been effected in all businesses. There has been a truer appreciation of these various fundamental functions. In other words, we have been trying to hew more closely to the line.

I sincerely hope that the time may soon come when we may deviate a little, when we may engage services that are advisable but today not considered absolutely necessary. I sincerely hope that the class of people who have been engaged in administrative functions and have been discontinued or laid off—that class has suffered more than any other—may be given first consideration in our recovery and that we may find a means of engaging this service without being too niggardly about it.

Along with our functional organization, many companies fully appreciate having an outstanding executive and officer in the position of a controller. I do not see how any chief executive of a large business can operate satisfactorily without having the guidance of a controller who is also the chief cost accountant and probably the chief auditor.

I believe we in large industry would do well, if we have not that particular function in our own organization, to have a man of that

type, a man on the same plane as any other officer of the company, a man who might be, through his knowledge, the right hand of management. I anticipate that with the full appreciation of this particular part or addition to organization the problems ahead shall be much less difficult.

Nothing is accomplished without tools. Most things are accomplished without machine tools. I mean by that the tools of a chief engineer, for instance, are not the drawing instruments; his tools are his knowledge of engineering. The tools of a production manager are really not the plant and equipment; his tools are his data, information, etc., on processes and controls. The sales manager must have tools. His tools are knowledge of markets, prices, territories, and matters of that kind. The purchasing agent's tools are knowledge of materials, methods of controls of materials, and matters of that kind.

What are the tools of an executive? I should answer that question by saying that the tools of an executive are his costs. By the proper use of his tools, his costs, the chief executive is in a position to control all functions of an organization. He may not know everything about engineering or about production processes, or about purchasing, or about sales, but he should know how those various functions manifest themselves through costs, and by the proper use of those cost tools exercise a most efficient control over all divisions.

The use of those tools is absolutely necessary to the success of any company, and you are the men who must furnish those tools and have them with just as keen an edge as it is possible to have. I mean by that, costs right up to the minute that will give your management, your chief executive, all he needs to meet these problems that are ahead.

In addition to that, you are in a position, by furnishing these so-called cost tools, to actually shape the policies of the company. Any executive today who attempts to arrive at a future policy, whether that be a policy related to product or a policy related to sales and distribution, without a true analysis of costs—those tools that I repeat you men are responsible for—is just guessing, and in the period to come there is going to be no room for guessing.

Along with these cost tools, of course, must come the budget controls. I believe that every large company must operate under budgets. There again you men fit squarely into the picture. No true budgets could be prepared unless done by the cost accountant, and through

those budgets I am sure we are safe in meeting these problems which lie ahead.

I mentioned the controller. No large industry should be without one. I mean an officer by the title of controller. I should like to outline what I consider might be the chief duties of the controller. Of course, he would have charge of general accounting, the preparation of balance sheets and income and expense sheets. He should have general control of all the auditing. In addition to that, and probably one of his most important functions, is that of controlling costs, preparing budgets, and at all times being the right-hand man of the chief executive.

The controller in a large industry—and there should be a man with corresponding functions in any smaller business—must be resourceful. The chief executive may say to him, "We must accomplish this thing." It may be in the way of expense reduction. That controller must be resourceful and recommend to the management just how best that can be done. He must be resourceful in his dealings with other departments, and in many cases he must be diplomatic, because essentially his functions are a service to all departments.

I have never seen a case, where the controller was given the proper authority, that results in all departments were not accomplished most satisfactorily.

Most large companies, like our own, three years ago were presented with problems in the way of cost reduction. Unfortunately, many companies waited for two or two and a half years, and what they did was rather arbitrary and hurtful. Had they appreciated fully, through the advice of their controller and through the use of these cost tools, the problems ahead, they certainly would have been able to do a better job and in a manner that did not hurt so many people so suddenly.

It is remarkable what can be done with the proper use of tools. I might be pardoned if I should mention what we have done through the proper use of tools, through the proper organization, in the matter of expense reduction. I mean by that the elimination, too, of unprofitable assets, such as branches, some plants, some force, some salary reduction—everything combined.

Three years ago in our company, which, compared with others, would not be considered large, we had a monthly staff expense—I mean by that salaries of clerks, supervisors, and officers—in all plants

of $860,000. Today it is less than $200,000. Probably we appreciated the importance earlier than some. That has been accomplished through the proper use of cost tools.

I hope you men in your positions will not think that you have to be too scientific. I think I am on dangerous ground when I mention that. Certainly every clerical function in an organization should be studied and standard practices written. Certainly every clerical function should be measured. If you are too scientific, you can't measure it. But any executive who claims to know what salary a clerk should get, should be in a position to determine the measure of importance of the particular work of that clerk. I think in the years ahead we must give more attention to standard practices and the measurement of all clerical work. It can be done equitably, forgetting the stop watch, if you are not too scientific.

Establish precedents. If I may be pardoned again, I would like to give you a little information concerning precedents that came to my knowledge several years ago. It happened to be in a bindery of a publishing company, where there was a large battery of automatic machines. An effort was made, through time studies, to increase the production of these machines. There were difficulties that at that time could not be overcome. Those difficulties had to do with the opposition of the union in the bindery. A cost accountant, studying the situation, developed this plan: He put small scales by every machine in the bindery. He gathered up all the bits of torn paper, the little scraps, and for a period of several months weighed the waste paper and computed its value. He then determined that he could allow a certain percentage of waste represented by a certain amount of money to each bindery crew (and a crew was composed of seven) for waste saving. In other words, if they had been wasting, we will say roughly, $10 a day, he could say to those people that if they would be more careful and waste less, he could set a standard, we will say, at $7 a day and pay them half the amount they saved below that.

His scheme was not primarily to save that waste paper, although it amounted to thousands of dollars. His scheme was to increase the production. He knew that he could not save waste without increasing production, because the only thing that interfered with smooth-running production of the automatic binder was the carelessness of the operator in putting the things into the machine, causing damage, and tearing paper.

In that particular case a precedent was established. Every crew was heartily in favor of saving waste, not realizing that they were accomplishing what was first sought, the increase of production. It was done with immense profit to the company and with very satisfactory increased earnings to the machine crews.

Establish precedents. You men are the only men in an organization that have the information on which you can be original and resourceful. Industry must rely upon you.

From what I have said, I gather that you feel that I consider accurate costs the most important function of any organization. I do. There is nothing more important. It should be the foundation for establishing all policies and the foundation for all controls. And after you have said that, what else is there?

But you men can't be shrinking violets. I have seen so many organizations where the chief cost accountant rather apologizes when he enters the office of an executive. This is no time for timidity, men. Have courage in your work, and enough temerity to put it across to those in charge. Then these problems that seem so great will become small.

The only safe course is a course founded upon facts. The only safe course in the future is a course in industry and business founded upon cost experience and cost estimates.

I sincerely hope that you men in your various organizations will get closer to those who are in charge, because probably they do not fully appreciate these particular things. If necessary, sell yourselves. Have courage.

We would have no depression today if the information which you men had at your command in 1928 and 1929 had been properly appreciated by the chief executives of the companies. Therefore, I say it is up to you to get to these men and be largely instrumental in preventing the future depressions. These things were the causes of the depression—over-expansion, over-production, over-everything-else—and they are perfectly silly in the light of accurate cost information. Let's stop that for all time in American business; and you are the fellows who have the job.

Finally, if you men in your capacities fully appreciate your responsibilities and your opportunities, the cost accountant of today will be the chief executive of tomorrow.

CHAIRMAN CAMMAN: Thank you, Mr. Miller, for your splendid address.

Mr. Miller, in his outline of the position of the accountant and the controller in industry, has given us his own, unsolicited opinion. The picture he has given you fits in so well with the theme of our program, that perhaps you might think we suggested some of its features. That is not the case. Mr. Miller's ideas, as expressed to you this morning, are his own. He has had no opportunity to consult with any member of the program committee.

He brings out clearly the concept we are formulating—and which I think business men generally are beginning to hold—the concept of the modern place and function of the controller. Not the controller who spends his time at his desk, immersed in routine, and on the twenty-fifth of each month, at the point of exhaustion, draws the final line under figures tabulated in great detail, nicely balanced, correctly footed, and then retires for a day or two of necessary rest before repeating the cycle, with no time to devote to constructive thinking, or to the really beneficial use of the figures under his preparation. Rather, the new type of controller, who has his accounting departments so well organized that the minimum of his time and attention is required for attention to details concerning them. He is free to interpret and use the information forthcoming to the best advantage. You will find this controller, not at his desk, but beside the desk of the sales manager, consulting, perhaps advising, on sales problems, on problems of market analysis or distribution. You will find him in the office of the production manager, consulting with him, offering suggestions, born of knowledge of the facts, as to production matters, as to reductions in costs, or other improvements in the sphere of production. You will find him in all departments as the advising, forward-looking, planning kind of controller. This is the type of man we have in mind today.

It is logical, therefore, that we should follow Mr. Miller's presentation of the problems which lie ahead in business management and the place of the controller in relation to those problems, with a paper presented by such a controller.

We were fortunate in obtaining for our speaker, Paul W. Pinkerton, a partner in the firm of Haskins & Sells. Mr. Pinkerton was, until very recently, controller of the Ainsworth Manufacturing Corporation in Detroit, manufacturers of windshields and automobile accessories.

He is a graduate of the University of Chicago (Ph.B. '08) and has had a quite varied experience such as is so useful to the modern controller. He spent six years in civil engineering and field survey work, prior to 1914. Incidentally, he spent a year of that time as cost engineer on the construction of the Grand Trunk Pacific Railroad in Northern British Columbia. For nine years following he was engaged in public practice as a member of firms in Indianapolis and in Chicago. For the last four years—up to June 10, 1932—as I said, Mr. Pinkerton has been controller of the Ainsworth Manufacturing Corporation. He also has been president of the Indiana Association of Certified Public Accountants, and of the American Society of Certified Public Accountants. He is an author and a co-author of several books.

The title of Mr. Pinkerton's paper, to fit in with our consideration of the trend of accounting in the future of American business, is "The New Accounting Department—The Advance Guard of Business." It gives me great pleasure to introduce Mr. Pinkerton.

THE NEW ACCOUNTING DEPARTMENT— THE ADVANCE GUARD OF BUSINESS

PAUL W. PINKERTON,

Partner,

Haskins & Sells, Pittsburgh, Pa.
Formerly Controller of Ainsworth Manufacturing Corporation, Detroit, Mich.

THERE could be no more fitting time than this for industrial accountants to gather together for consideration of their work. The economic condition which has existed for the past two or two and a half years has awakened business to a realization that problems still exist—that the rule of the survival of the fittest is a natural law whose action has been intensified after the years in which the law seemed to be lying dormant.

During these two years, which Californians speak of as the smallest boom in history, the question on the lips of the superficial has been "When will it end?" but the questions on the lips of the thinkers have been, "How will it end?" and "What will make it end?" The cry of the world was for a leader like Moses of old who would show the world the way out of the wilderness.

No such leader appeared. There was first a period of helpless and aimless wandering during which business proceeded a little way in one direction, a little way in another, but always, since the way out did not promptly appear, it returned to its camp for lack of confidence. After over a year of this backing and filling a spirit of determination seemed finally to settle upon industry, and without the guidance of any one great leader the determination was reached to start in one direction and continue in that direction without wavering until finally the edge of the wilderness was reached.

The direction selected was the way of reduced profit margins and curtailment of costs, a route beset with difficulties which may cause heavy losses if the advance guard does not do its work properly. It has therefore been necessary to select this advance guard with extreme care, and for it there have been chosen members of what had previously been industry's rear guard—the accountants. Their previous skirmishes, independent of the main army, with things which that main army had long since passed by, were at least skirmishes, and are presumed to have fitted them to some extent for much greater responsibility in the advance guard.

Formerly their duty was to watch the rear and see where industry had gone; as members of the advance guard their duty is to watch ahead and see where industry is headed, not selecting the course, for that is the task of the commander, but telling what dangers and pitfalls are to be found on each of the possible courses, so that the commander may have the knowledge necessary for guiding his forces along the safest, surest, and most direct route to the hunted goal.

Gentlemen, you have heard the expression, the "new controller." This is his function—to be the advance guard of business.

And so I repeat that there is no more fitting time for accountants to gather together for consideration of their work. They have new and greatly increased responsibilities in the way of constructive effort to prevent, or at least to alleviate, destructive conditions. They have really new duties of looking forward to see what the outcome is bound to be instead of looking backward to see what caused the outcome which appeared. They have vastly larger opportunities of personal advancement and of obtaining a place near the head of management's council table.

Out of industry's difficulties there is growing up in this country a new type of controller. He is no longer primarily concerned with keeping accounts and furnishing financial statements. Procedures

for these are organized. The controller is spending his time in carrying out his true advisory function by going into every department, planning, advising, projecting results and coordinating effort by furnishing figures and supplying information. His activities are in no way executive—he is a member of the staff rather than of the line —but more and more policies are being formulated on the basis of facts furnished by the controller rather than on the basis of opinions hazarded by sundry individuals. It is well known that too often the facts do not agree with opinions resulting from highly complex combinations of tradition, prejudice and ambition.

I spell this man's title c-o-n-t-r-o-l-l-e-r rather than c-o-m-p-t-r-o-l-l-e-r, for several reasons. In the first place the long spelling looks archaic and the other modern, and I dislike things which look out of date. But as a matter of fact the short spelling is the older and the other is a mistake. The original Latin form is "contrarotulator." This is derived from "contra," against, and "rotulus," a roll. The combination means a roll against which things are checked, and the "ator" ending means just what the "or" and "er" ending always means: one who does—in this case one who makes or keeps the roll against which things are checked.

The old French adopted the Latin word in almost its Latin form, contrerolleor, still thinking of the "roll" and the "against."

So I prefer c-o-n-t-r-o-l-l-e-r. There are those who dislike this because it implies that the controller is the man who controls or runs the business. While this use of the verb "to control" in the sense of "to rule" is also an evolution, we can't spend any more time on the study of words. But to overcome the objection that the word implies ruling authority, some industrial organizations have called the controller the manager of the control department. Whatever he is called, he must not only control the work of the accounting department and assist management in the control of the functional departments, but must also contribute toward the future plan of operations. The controller or manager of the control department is the man who furnishes the data by which the whole business enterprise is controlled.

This is a far cry from the oft-quoted encyclopedia definition which says that "the proper and, in the United States, the only business of an accountant is to examine accounts and make out balance sheets and statements," and shows how the position of the accountant has advanced from the days of Dickens' musty bookkeeper with his high stool and his alpaca coat. In those days the bookkeeper's tenure of

office was likely to be for life, and his salary was likely to be just as unchanging as his job, and as pitifully small as his outlook on life. He was an expense. Some people have called him a necessary expense, but I think the proprietor's point of view is better expressed by speaking of him as an unavoidable expense.

That type of clerk will always be with us, but the controller of whom I speak is an entirely different sort of person. He is not an expense except in the same way that a bonus plan is an expense. Just as the bonus plan requires the spending of money to save larger sums, so the employment of a capable controller requires the spending of money to save much more money, worry, and misdirected effort.

If such a man fits in with this concept of him, he is a factor in the making of profits and as such will be rewarded. If, however, a so-called controller is not a real factor in the making of profits he can not expect either the remuneration or the influence allotted to others of the same title. In fact, he will be lucky to hold his job.

I have little sympathy with the point of view of those in responsible accounting positions who complain that they are not able to make themselves felt in their organizations, saying that their executives won't pay any attention to their suggestions. I have full sympathy for them in such a case, but none for the point of view which puts the blame off them and on the other person. A man who feels that way has not solved his problem, and until he accepts the defeat as an indication of weakness in himself he is not likely to win a victory. Much more do I prefer the attitude of the man who says, "I've been trying for six months to put that across. There must be something wrong with my handling of it, because I know the idea is sound." That man will grow, because he recognizes the fault in himself, and will try to find the cure.

Similarly I have little sympathy with the common complaint about the difficulty of making executives use or even examine reports and figures which are prepared for them. To me it seems that this difficulty results from two causes, interrelated and both reflecting on the one who has prepared the figures.

The first of these causes is that too often the figures merely tell the executive in detail something he knew in general long before the accountant did, perhaps that sales were falling off, or that costs have been too high in a certain department, or that the profit margin is declining. Too often the accountant closes his records and rushes to the executive with a great discovery along these lines—but, in the language of the street, the executive was away ahead of him, for the exec-

utive knew a month ago from the sales department that sales were falling off, he knew three weeks ago from the factory manager that specific operating difficulties were being encountered in the department in question, and he knew when he approved price quotations that the profit margin was reduced.

As long as the accountant's reports merely confirm what the executive already knows there is little reason to expect him to wax enthusiastic over them. From this standpoint, training as a newspaper reporter would be a valuable thing for every preparer of figures for executive use. The newspaper man is required to learn first of all to discriminate between what is news and what is not; in other words, between what will interest the reader and what will not interest him. No news publisher can expect financial rewards from a paper which does not contain news, and no accountant can expect executives to interest themselves in financial reports which do not contain news.

The second cause why there is a complaint of difficulty in making executives use reports is that too often the accountant has failed to arrange or select his figures so that they help the executive to see their importance and their meaning. The accountant must select the vital figures—not just the important figures, but the vital figures—for special presentation. Here again newspaper training, with its rigid space limitations, would be helpful to an accountant. And if the accountant could only adopt the style of the tabloids, how much farther he would get!

A mass of figures covering everything is of great value in an office, but the man who will use them is not the executive, but the new type of controller. His job is to go over them, to separate the significant ones from those which indicate nothing requiring executive attention. His is the task of interpretation. He is a specialist in such matters and must assume the responsibility of a specialist—and then be prepared to demonstrate the accuracy of his interpretation.

Furthermore, executives are not always trained in figure-analysis. Even if they are capable in this line they often find the work burdensome because of the multiplicity of other tasks awaiting them, and laborious because of their lack of practice at work with figures.

Accountants in the past have measured their capabilities by the volume of their output of reported figures; the controller of the future will be measured by the wisdom with which he selects the figures which will aid management, and the accuracy and helpfulness of the conclusions he draws from those figures.

A century ago Adam Smith said that there were only three purposes for which the corporate form of business organization would prove profitable.

Since then business has grown until the old principles of management have had to be worked over until they are now hardly recognizable as fundamentally the same. The size of business has forced a constantly finer delegation of duties and of responsibilities. The executive, even with his large staff, has at his disposal insufficient time for the magnitude of the work which faces him. He wants to avoid figure-analysis and is willing to pay well for the services of a man who can select the figures which indicate matters requiring executive attention.

I have spoken of accountants as the advance guard of business in its war on present economic conditions. In war, troops are assigned and re-assigned as may seem best in order to accomplish the desired results. The same thing will be true in this war being waged by industry. If the assignment of the accountants as the advance guard does not prove effective they will be pulled back into the line and some other department will be given the opportunity.

Opportunity, then, is what is now given to the accounting department—opportunity for the first time to be a real factor in the making of profits rather than merely an unavoidable expense. What will accountants do with this opportunity? Heretofore they have been merely part of industry's main troops, always working under orders from above, seldom called upon to use any great degree of initiative.

Their new function is one which demands a great degree of initiative, of originality, of constructive thinking, of analytical ability. Where in the past the accountant spent most of his time simply following precedent, doing things in the way they had been done previously, now he is to be called upon to meet new situations in new ways constantly. The shock troops of battle receive specific orders for almost every move; the advance guard, on the contrary, is on its own resources with the main army's very existence depending on how it uses those resources. It must tell the commanding officer what it learns which may influence his plan of campaign; it must decide as to what is worth reporting and what has no significance; and whatever it decides is worth reporting must be reported in time for the news to be of value.

In the past the accountant's task has been largely to follow after the army and record the history of the campaign. Now, because it is believed that their historical analyses have perhaps given them a background of understanding of the principles of the business conflict,

they are given an opportunity to aid in the battle by reporting to the commander the indications of impending danger as they see them in advance. At the same time, because of their knowledge of what the great Caesar used to call *natura loci,* they are given an opportunity to advise with the commanding officer regarding methods of meeting the threatened danger.

It is an opportunity—the greatest opportunity for growth which has ever been placed before accountants. It is also a grave responsibility. Never has there been a better setting for this convention than the present one, and an analysis of the technical program is convincing that the committee has fully understood this fact. For several days we are to study the work of this revivified accounting department in its relations to specific industrial functions, discussing how we can best play our part in the campaign. My job here is only to present the problem, to sound the key-note, as it were, to generalize in an effort to emphasize our opportunity and our responsibility.

At the risk of being overly repetitive, my first generalization is based on the fact that accountants are now called upon to analyze situations rather than figures. The figures are the tools. The accountant must see what they indicate. He is given an opportunity to be a thinker rather than a pencil-pusher. But to hold his place he must qualify himself to take full advantage of this opportunity. He must be a student, a reader, an asker of questions.

Management is not going to take any accountant and say to him, "Decide this matter of policy." He must first demonstrate his individual worthiness by many times going through the fire and presenting, of his own volition, definite conclusions on matters of policy. He must prove the theoretical accuracy of these conclusions by logical presentations of his figures. He must sell his ideas so that they will be tried, and in the trial they must furnish complete justification for the accountant's stand.

When this procedure has occurred successfully a sufficient number of times, confidence in the accountant's judgment will be first engendered and then established. But it is not such a simple process as it might seem. Note that it involves several elements:

(1) The development of an idea for a profitable change in policy.

(2) The determination from figures that the idea is or is not worth while.

(3) The preparation of a demonstration of the developed proof.

(4) The presentation of the idea and the proving of it to others.

(5) Watching its carrying out to see that prejudicial conditions are not permitted to defeat it.

(6) Preparing and reporting mathematical proof of its success after the fact.

Let us consider each of these in turn, using a relatively simple illustration. And be it observed in passing that most of the ideas which will result in profit improvement will be simple ideas.

Suppose the accountant notices, as he studies his figures, that the cost of fuel has been rising year by year. This presents reason for study. The increase may result from any one of a number of causes. There may be need for an increasing amount of steam, there may be less efficiency in handling the fuel, or the unit cost of fuel may have risen. Perhaps all of these factors enter into the increased cost.

The accountant's task is to determine how much of the increase is due to each factor. He must jump at no conclusions, but must use his ingenuity to discover how he can properly allocate the increase among the respective causes. Suppose he finds that the work of the enameling department, with its high steam requirements, has greatly increased. Perhaps this has been considered sufficient excuse for the rising fuel cost. But painstaking analysis may show that the increased work of the enamel room does not account for all the increase in fuel cost. When he completes that analysis he is on the road to something worth while.

If he next finds that although the per-ton cost of coal is down, a poorer grade is being purchased, his problem becomes complicated. He has to consider the efficiency of the coal itself, of the firemen, and of the steam-creating and transporting plant. Since it is probable that at this point executive authority is necessary in order to conduct some adequate tests, it may be necessary for him to report what he has discovered—which, by the way, is enough for a start, because it promises to result in an economy.

His next task is to prepare a convincing demonstration of the fact that increasing requirements of the enamel room do not account for increasing fuel costs. He has proved it to his own satisfaction, but proving it to the satisfaction of others—especially of others more accustomed to reach conclusions by a combination of tradition and intuition than by the cold logic of figures—is a different matter. He must determine how much of the details of his method of approach it is wise to include in his presentation, and on the wisdom he exercises in deciding this point much of his ultimate success depends.

His calculations of the use of steam have undoubtedly been complicated, and in all probability they have required certain assumptions. If the accountant is capable, assumptions will not be made in cases where the degree of error resulting therefrom might have a material effect on the final result, but the very existence of any assumptions weakens the presentation. If the executive to be consulted is inclined to go into great detail with figures it is sometimes well to have everything involving assumptions worked out in two ways, once with all assumptions as *minima* in affect and the other with all assumptions as *maxima* in effect. Indeed, it is well for the accountant to take this precaution for his own purposes, so as to be sure he is not reaching a possibly false conclusion.

When he has his demonstration fully prepared he has reached the point where he can make his greatest error, because in his presentation of it there are two great reasons for failure. These two reasons are: first, the accountant himself, and second, the executive.

Accountants deal with figures. Figures are impersonal. They have no emotions. They do not suffer from pride, jealousy, or false dignity. They carry no titles and hold no offices which must be respected. The result is that the accountant, dealing constantly with such spineless creatures, and working a great deal by himself, is likely to be the most tactless type of individual imaginable. Compare his work with that of the salesman, who is constantly playing with human emotions. Compare his work with that of the business executive, who has won his place by dealing constantly with human vagaries. Compare his work with that of the lawyer, who is constantly battling in the effort to overcome human prejudices, or with that of the physician, who finds that his greatest enemy or ally in the cure of physical ills is the human mind.

Beside any of these the accountant is too often poorly prepared for the contacts of human relationships. When he presents an idea he too often creates an antagonism in his very first words. Too frequently he gives the impression of trying to tell the executive how to run the business, and the executive will be fully justified in resenting any such attitude. Too often the accountant fails to realize that he was employed to obtain just such information as that which he is now presenting. The executive felt the need of it, and hired someone to obtain it. With the information, the executive will ordinarily know how to proceed far better than will the accountant, and the possession of the information which the executive hired him to obtain gives the accountant no right to feel himself superior because he has found a weak spot in

the executive's handling. If there were no such weak spots, the executive wouldn't need him.

I do not mean to say that the accountant commonly takes the attitude I have criticized, although I know of many cases where, beyond any denial, he has unquestionably done so. But I do mean to say that too often his presentation of his findings implies just the point of view I have criticized, whether it was actually in the accountant's mind or not. His attitude, on the contrary, should be that he is helping the executive, not showing him. There is a vague difference of manner which has much to do with the success of his work.

Secondly, he should be careful about making recommendations, always bearing in mind the fact that the executive has risen to his place because of his ability to make decisions when the data are placed in front of him. The accountant's job is to prepare and present the data. The executive will ordinarily see the line to be followed if the data are conclusive and well presented. The accountant need not tell the executive what to do.

In the present example of constantly increasing fuel costs the following outline might be developed into a satisfactory presentation:

"Our fuel costs have been steadily increasing year after year, in spite of the fact that dollar volume has been fluctuating, with a decided downward tendency in the last three years. Here are the figures for six years. We have attributed the rise to the increased work in the enamel room, but that really accounts for only 58% of the increase in costs. Here is the proof. Only in the enamel room is there any increased demand for steam: other departments have required less or at least no more than formerly. Here is the proof. If the decreased demand in the departments results in only a nominal saving, from 42% to perhaps 50% of the increased cost is unexplained. We are buying coal at a lower price per ton, but are using a cheaper grade. The unexplained difference may be due to less efficient fuel, less efficient firing, or decreased plant efficiency. The possible saving is indicated as blank dollars per year. To find out which inefficiency causes the loss will require these tests, which may cost blank dollars before they are decisive if it is necessary to carry them all to a conclusion. What is your pleasure?"

No recommendation, except the subtle one of implying that the executive will act. So different from the not uncommon failing of jumping at a conclusion and telling the executive that "we need a new stoker," or that "better coal would save us money." The scientific ap-

proach as contrasted with guesswork; the tactful approach as contrasted with social crudity!

I said that there were two reasons why the results of accounting analyses often failed to have an effect on the profit and loss statement. One of these reasons, I indicated, was the accountant himself; the second was the executive. We have looked briefly at the pitfalls which beset the accountant, now let us see what part the executive plays in this failure.

A year or so ago this organization issued a bulletin entitled, "Overcoming Executive Inertia." I think that's the most wonderful title I ever heard. I look at that cover frequently and wonder what's inside. I'm afraid to read the bulletin for fear it won't come up to my hopes. So much could be said, and so few who could say it would have the intestinal fortitude to do so.

And yet, when all is said regarding management's dilatoriness in trying the new, is there not much to be said in favor of management's attitude? There is no noticeable executive inertia in a new business. Inertia does not produce new businesses. Executive inertia is found in old businesses which are successful or at least mildly successful. It is seldom found in decadent businesses, because a decadent business does not last long enough for it to manifest itself.

Since, then, this inertia is found in noticeable quantities only in successful or at least mildly successful businesses, may it not be an attribute of success? In other words, may not the very conservatism which makes the executive ponderousness hard to get into motion be a valuable and proper thing? I am convinced that it is. The idea that the methods which have made us successful are good enough, the idea that since we have done so well along these lines, why change?—these ideas are the foundation upon which the characters of individual organizations and the stability of business as a whole are built.

But this does not imply that there should be no change, no sailing into new waters. I merely say that this resistance to change is a good thing for the individual organization and for business as a whole. Note that I do not say that *refusal* to change is a good thing; but I do commend *resistance* to change, requiring that the value of proposed innovations be thoroughly demonstrated by test and otherwise.

Whether or not you agree with me in regard to the value of this resistance to change, it is found in all successful organizations, and its existence must be recognized. This means that the accountant must prepare to cope with it—to overcome it if he is to accomplish anything

in the way of improving the profit condition. He should realize that the executive who offers the greatest resistance will appreciate the most strongly being won over to a worthwhile idea, because such an executive gives way more seldom and therefore will have reason to be appreciative less frequently. In other words, the harder the battle the greater the victory if the idea on which the battle was based is a sound idea.

Therefore I commend to all accountants the subject of that bulletin of which I speak, "Overcoming Executive Inertia," and urge their consideration of this phase of the work, for it becomes a part of their task to convince executives. These are the days when accountants must initiate, and this fact places them in a different position from that which they occupied when they developed only those studies which executives suggested. Then they placed before management only those facts which the executives were prepared to receive; under the new practice accountants are called upon to plant the seed.

There is, however, another phase of executive resistance to the suggestions of accountants which has a slightly different aspect. This phase also manifests itself in the statement from the executive that "accountants always try to run the business." It results from a mental condition created by the too-common tactlessness of accountants with whom the executive has dealt in the past. In fact, if the committee had wanted to add a delightfully humorous, satirical and yet emphatically helpful number to this convention program, it could have done it by having the right executive read a paper entitled "Accountants I Have Met," or perhaps "Accountants That Pass in the Night."

This mental attitude that "accountants always try to run the business" is sometimes acute, but generally chronic, and rarely incurable. In most cases the treatment is the same. The accountant who meets it must be just that much more tactful and respectful of the executive's position. Over a period of perhaps years he must be constantly on the alert to show that he is not trying to run the business, and that he is merely trying to give the executive information which he knows the executive is seeking. During this period of building confidence he will be very careful about making recommendations, but will rather present his data in such a way that the suggestions will emanate from the executive. And when he has succeeded in instilling confidence he will find himself much more leaned upon than had the task been easier.

After presenting his data and obtaining action, the next step in

the accountant's task of initiating ideas for the improvement of the profit position is in watching the methods used in carrying them out. In the fuel example we have used, this step includes watching the tests made to determine whether the inefficiency is in the fuel, the human handling, or the plant.

This whole matter of tests is one which requires great care, but time permits me to say only that it behooves the accountant to watch carefully the making of all tests in matters in which he is interested, for if not made with all factors considered such tests may be decidedly misleading.

In the same way the accountant must watch the carrying out of his suggestion to make sure that failure does not result from incomplete action or erroneous action. New ideas are often diametrically opposed to old ones, and may not be followed sympathetically by those responsible for putting them into effect. Even where this is not true, there may often be a failure to understand what the change is about, why it is being made, and what it is hoped to accomplish thereby.

But in watching the carrying out of changes the accountant must again remember that he is not a line officer, with executive authority; he is a member of the staff, an adviser to the chief executive, but no more. If he assumes to interfere by giving direct orders in such a way as to break the chain of line authority, he is in great danger of ruining his own usefulness.

Perhaps some one will say that this shouldn't be. Without entering into that abstract argument, may I point out that whether it should or shouldn't, it has to be if our present system of industrial organization is to be maintained. Perhaps the time will come when a substitute for the line organization will be worked out, but I can't see what it would be, and until that time the operation of a business can't be successful if any person has the right to interfere between charted steps in the line.

And finally, when an idea has been tried out, the accountant's task is to determine mathematically whether or not it has been successful and the degree of success, or if unsuccessful, why. In other words, what factors were overlooked in deciding on its adoption. Here again he must exercise real ingenuity and caution—weighing all elements, including all costs, eliminating all extraneous factors.

In employing a relatively high-salaried man in connection with the accounting, the executive expects to be able to free himself from the necessity of occupying his own mind with certain problems of the

business. In the case of taxes, for example, he demands of his controller that that officer will do more than know all about taxes. Of course he expects the controller to be able to answer all ordinary questions about taxes, or to be able to lay his hands on the answer quickly.

But that is not enough. He expects the controller to use this tax information which he possesses. He requires of the controller that the controller shall relieve the executive of the necessity of applying the tax information in such a way as to save taxes, not by evading them, but by avoiding them. The executive mind is necessarily an alert, imaginative, agile mind. The executive used to devise sundry plans for cutting down on tax expense. As each of these plans evolved itself in his brain, the executive would present it to a tax expert who would tell him whether or not the idea was workable, whether it would accomplish the desired result, and whether there would be any reactions whose disadvantages would offset the advantages to be gained by the scheme.

This planning required many hours of study by the executive, who in the employment of a controller is endeavoring to rid himself of this burden. The executive wants more than a man who can tell him whether his own ideas are good. He wants a man who, with the same sort of alert, imaginative, agile mind, will do the tax thinking for the corporation—a man who will do the suggesting of plans by which the corporation may take full advantage of the many exceptions and relief provisions, apparent and buried, expressed and indirectly implied, in almost all tax laws.

These comments apply to all kinds of taxes, income, excise, transfer, and property taxes alike. In the field of property taxes, for example, where too often one feels that the only way in which a reduction can be obtained is by arguing with, bluffing, browbeating, cajoling, or bringing political pressure to bear upon the assessing officer, there are certain accounting practices which can be adopted with a view to lowering taxes.

In illustration, remember that real estate—i. e., land and building—valuations are usually set for taxation by appraisal and irrespective of book values, whereas personal property valuations, including machinery, equipment, etc., are in most jurisdictions established by the assessing officers with the aid of balance sheets and book values. Any reduction made in the book value of personal property is likely to have an effect in helping to reduce the assessed value of the personal

property, while an equal increase in the book value of buildings will, because of the method of appraisal, have no tendency to raise the assessed value of real estate. Then why not make it an absolute rule that all acquisitions of items on the border line between equipment and buildings shall be entered on the books in the Buildings Account, since real dollars are saved thereby. The thoughtful controller does not permit in his equipment account such items as fire-doors, boilers, or elevators.

In the field of death duties also the controller has a real responsibility. Although the corporation pays no such taxes, the liquidation of many corporations has been forced because the estate of a controlling stockholder had no other means of raising the cash required to pay the death taxes. Preparation for death may not fall within the scope of the controller, but preparation for the taxes levied at death certainly does, and the controller has three specific duties: (1) to keep important stockholders advised, so far as they permit him to know the extent of their wealth, of the probable amount of state and federal death taxes, (2) to show them ways of arranging their estates—and there are many such ways—so that the taxes will be lighter, and (3) to see that they realize that they must arrange through life insurance or otherwise to have the cash available for the payment of these taxes, so that sacrificed unloading of their investments may not be forced upon their executors.

In all matters pertaining to the insurance affairs of the corporation the controller should do the executive's thinking, because that is the purpose for which he is employed. He cannot qualify properly for his job if he does not know how an insurance adjuster would proceed to determine the amount of a fire loss, because without this knowledge he can have no method of determining the amount of insurance which the corporation should carry. Book values are by no means a criterion in the case of fixed assets, and even if they are coincidentally correct the correctness must be proved.

On the basis of present replacement values it is probable that most corporations are carrying a higher percentage of coverage than they have planned to carry. This may mean much in dollars and cents —how much it is the controller's duty to know, and it is also his job to act in the matter before the executive has to bring it to his attention.

He should keep himself informed as to new policy forms. If his organization is in five or more locations, he should know that under a new type of policy he can obtain one hundred per cent insurance at

an eighty per cent rate, and have the additional advantage of paying a premium on only the average monthly inventory instead of having to pay it on the maximum stock as under the old types of annual coinsurance policies. Information like this should enter the organization through the controller, instead of coming to him from the executive.

The matter of use and occupancy insurance especially deserves the controller's attention. To carry enough is ordinarily considered essential; to carry too much is wasteful; but to determine the right amount is a real task. When, however, the controller has once mastered the principles which have governed settlements actually made under such policies, he has acquired an asset of knowledge which will be of use during all of his career.

If his organization ships abroad, or acts as a supplier to other organizations which ship abroad, he should know tariffs. He should be in a position to consider and discuss the advisability of establishing or discontinuing plants in foreign countries. He should know that a drawback is not necessarily one of the players on a football team.

Since he should at all times be in close touch with national and even international financial trends, knowing markets and commodities, it is not at all beyond the scope of his work to keep his eyes open for new products which will fit readily into his organization's activities. It is not foreign to present tendencies for the controller's department to initiate and conduct the research leading to executive consideration of specific new products, and it is certain that controllers whose companies have slumped because of insufficient or tardy attention to this matter of new products have failed to realize the full possibilities of their positions.

It is the controller's duty to suggest to the executive consideration of such matters as the reduction of fixed asset values to a present-day equivalent by a direct charge to Surplus, reducing future operating charges for depreciation and thereby tending to place the corporation in a better competitive position than when loaded with the fixed weight of equipment purchased at the peak of a market which is gone. Such suggestions, with a full statement of advantages and disadvantages, should come from the controller to the executive, not from the executive to the controller.

In summary, the accountant's task as the advance guard of business requires a radically different outlook from that which was formerly expected of him. In the past he recorded information where

it was available for the purposes of management. When management wanted some of that data, the accountant was asked for it, gathered it together, and gave it to management to digest, analyze and use. His part in industry's battle was a very passive one.

But now management is expecting him to do more. His job still includes the recording of the data, but business has become so involved and the problems of management have so increased that management hardly realizes any longer what data are available and what are not. Therefore where management formerly gave instructions as to what data were to be recorded and what use was to be made of them, now the accounting head must select the data which will be needful. Where management used to ask for data which management would digest, analyze and use, now the accounting head must do the digesting and the analyzing without being asked, presenting the results to management for management to use. In other words the accounting head is exercising what has been a management function, now delegated to him by the executive for two reasons:

(1) Because the complexity of business has become so great that the executive must free himself of the time-consuming work of figure analysis and interpretation.

(2) Because the complexity of business has become so great that the analysis and interpretation of figures has become so decidedly a special phase as to require the services of a specially trained man.

In the last thought is found the real *raison d'etre* of the new controller, the specialist in the use of figures. Such a man will find for himself plenty to do in any sizable organization with involved processes. He will realize that from the profit standpoint every expense item which increases is worthy of his scrutiny and of his careful study to ascertain why it went up and whether it had to go up. He will realize that every expense item which goes down is perhaps even more worthy of his scrutiny to determine why it wasn't down before and whether it went down enough. He will realize that every expense item which doesn't go either up or down is worthy of his most careful consideration, because the dead weight of these non-variable charges is too frequently the load which crushes.

Such a controller will instinctively know that the efficiency of all performance can be measured only by comparison with some sort of a standard, and consequently will seek proper standards as his yardstick for all comparisons. He will separate his semi-variable costs into purely variable and non-variable elements, so that at any

volume he will know what amount of cost will be justified in comparison with established standards of performance.

In his seeking of standards he will be likely to give the business world valuable help in what I hope to see as the next big development of the science of management, the determination of standards for the measurement of executive efficiency, whether the executive be purchasing agent or foreman, paymaster or sales manager, credit manager, general manager or the controller himself.

The type of controller of which I speak will be thoroughly versed in all incentive plans and the methods of their operation. He will know and avoid their traps and pitfalls in operation, but at the same time will realize that never yet has a properly devised and operated incentive plan failed to have a favorable effect on the profit and loss statement, while at the same time giving the workers the same sort of an interest in their work that they might have in a business of their own, because the financial rewards can be increased with increased conscientiousness and endeavor.

Such a controller will understand the real purpose of budgets as representing standards of expected accomplishment and forecasts so that management may know what to expect in the way of profits and financial condition as a result of an expected volume of business and a contemplated program of development. He will understand the real difference between a governmental budget, which, by law, says that so far and no farther shalt thou go, and a business budget, which, instead of being meant to lay down a law, was planned to provide a standard and a forecast; and with that understanding of a vital difference will see that budgets, either formal or informal, must play a large part in the operation of any successful enterprise.

He will understand the use of tests as a means of determining in advance the probable results of any change in policy, methods or equipment. He will be big enough and well enough trained to tackle any problem involving costs. He will know how to determine when any machine should be scrapped in favor of another. He will know how to figure whether the reward of contemplated salvage operations will justify the cost.

And, what is just as much to the point, he will have imagination and initiative enough to be doing these things constantly, of his own volition. He will be interminably studying conditions and methods, both factory and accounting, in his own plant and in other places,

in books, in trade papers and in the publications of the National Association of Cost Accountants.

So much for the profit side of his work. On the balance sheet side he will be giving a constantly increasing amount of attention to trends which indicate the beginnings of those conditions which prophesy trouble and to those ratios which indicate over-investment in receivables, in inventories, or in fixed assets, any one of which is a dangerous symptom. Again he will be using imagination and initiative, again he will be constantly reading, studying, thinking, realizing that his task is to be the eyes and ears out in front of the army, reporting what needs to be reported when it needs to be reported, without waiting to be asked, fulfilling completely what is expected of him as the advance guard of business.

CHAIRMAN CAMMAN: Mr. Pinkerton, in his description of the qualifications of a controller, has included a suitable reference to the necessity for the controller to be tactful while having initiative. I think that is well for us to bear in mind. Perhaps we should say the controller or accountant in industry should be unusually tactful, because so much of his opportunities can be lost through opposition founded simply upon undiplomatic procedure.

I hope that you have received from Mr. Pinkerton's paper lasting impressions of the very real opportunities for usefulness that lie before us. If you take with you from the meeting this year but one worthwhile thought, I hope it will be this one, concerning the responsibilities and the duties of the new controller—that he can make of them what he will, almost without limit.

Mr. Miller, as the head of a large business, has told us something of the problems which lie immediately ahead and what the accountant may do to assist in their solution. Mr. Pinkerton, as a controller of the type we visualize, has told us of the controller's desired qualifications. It has been mentioned that the controller is not the commander, but an aid to the commander. Let us hear now from another commander, the head of another large business, William L. Batt, President of SKF Industries, Inc. Mr. Batt is a graduate of Purdue University (M.E. '07). In 1917 he became general manager of the Hess-Bright Manufacturing Company, and in 1922, when this company with several others was combined to form SKF Industries, Inc., Mr. Batt became president, which office he holds today. He is also president or director in a number of other corporations.

His interest in professional affairs is active. He is prominently identified with the Society of Mechanical Engineers, as a Manager of the Society and member of several committees. He is also interested in the work of the Society of Automotive Engineers, and I can assure you, from my own knowledge, that he is also interested in the work of the controller. It has been my privilege to hear Mr. Batt express some of his views on this subject and I can assure you that they are worth hearing. It is my honor to present Mr. Batt.

THE CONTROLLER'S RESPONSIBILITIES AND OPPORTUNITIES

W. L. BATT

President

SKF Industries, Inc., New York, N. Y.

There is usually some advantage in being the last speaker on the program. It certainly should give one the opportunity of not saying those things which have been said earlier. It has certain opportunities also for picking up useful suggestions. But I submit, if you will look at this morning's program, that the gentlemen who have preceded me so ably have stolen my subject, lock, stock and barrel. I have the subject entitled, "The Controller's Responsibilities and Opportunities." If there is anything further that can be said about it, if there is any more descriptive material that can be given than has been given by my two distinguished predecessors, I confess I don't know what it is.

I have begun to wonder myself if we are going to recognize this individual who has been so glowingly described. I thought of a story, as I sat here. It is not proper, perhaps, to tell a story in such a distinguished gathering, but nevertheless this story went through my mind.

I was reminded of the old colored woman who was attending the funeral of her husband. She sat in the front row, properly garbed in mourning, prepared to enjoy the funeral, with her family around her. The minister preaching the sermon took a half hour to describe the deceased brother and, to put it casually, he laid it on rather thick. She listened to this description, listened and wondered,

and looked at the casket repeatedly, and turned around and looked at the rest of the family to see if the same uncertainty was going through their minds that was obviously going through hers, and finally picked out the most energetic looking son she had and said, "Look here, Son! You just go up and look at that casket! I don't think they got your Pa up there."

I think, therefore, because this new controller has been so thoroughly painted for you this morning, that the easiest thing for me to do, and in consideration of the late hour, perhaps the best thing for me to do, is to briefly emphasize some of the characteristics which have been attributed to him.

First, however, I am going to ask you and ask myself, "Why all this fuss today about the need for new characteristics in the controller?" Why is it that we are asking ourselves what these characteristics shall be, in this day when cost accounting is an old established practice? Why hasn't this demand originated at an earlier time?

As I look back now, almost two generations, I remember the work of two distinguished engineers of whom perhaps many of you have heard, Frederick Taylor and Carl Barth, who promulgated the theory of scientific management. At least all the older men in this room will remember the hullabaloo it created. It was the most heartily damned doctrine on the one hand, and the most devoutly praised doctrine on the other hand that you could conceivably find. It was, however, a little bit misleading in that it confined itself almost entirely to factory management.

Perhaps your Association and your business very largely owes its present growth to the work of Frederick Taylor, because his first insistent demand was for an adequate set of cost records. Out of that need grew the cost accountant.

Taylor lived and died, and because of perhaps a general cyclic trend, I have always felt that his work stopped just short of completion. On his insistence, we dissected the factory, upside down and backward. We analyzed our productive methods, even to the point of photographing the motions incident to doing a job in the most efficient way. We analyzed every step that goes into the completion of the finished article, and finally "costed" it.

The War came on with those many diversions that distracted us from the routine problems of business. We had only to run just as hard as we could to keep out in front. Then subsequent to that came

the very brief reorganization period of 1920 and 1921 and the building of the boom period which culminated in 1929.

The management of business, the business side of business, hasn't had to worry very much, over those periods, as to the income side of its balance sheet. By and large, it hasn't taken any very unusual amount of effort to run a reasonably productive business, and I am quite satisfied that up until the end of 1929, there were a lot of us heads of businesses that thought we were pretty good.

Now, of course, our balloon, just like others, has been sadly punctured, and we are asking for help. We recognize now, I think, as executives, that the management side of business is going to be subjected to the same critical, intelligent scrutiny that characterized the examination of the productive side of business a few generations ago.

It is my definite opinion that the efficiency in the production of goods has far outstepped the efficiency in the distribution of goods, and I insist, therefore, that it is a major problem of the next generation to attempt to lessen that wasteful spread between the cost of a finished product at the factory door and the cost of that same product to the ultimate consumer.

I do believe that we should be able to compete with the rest of the world successfully, but we shall not be able to unless and until we have known our final costs substantially. But, dismissing that question for a moment, I am satisfied that we shall not be able to solve our own internal economic problem until we shall have substantially brought nearer together that great volume of potential consumption, the agricultural industry, and the large production group represented by industry in the cities.

I have had an opportunity in the last few days to associate rather intimately with some old classmates of mine who are intelligent farmers living in this part of the country, and I tell you, gentlemen, I am appalled at the situation which actually confronts the farmer today. I thoroughly recognize that for many years he has been accused, and perhaps with some justice, of crying before he was hurt, but I am quite satisfied today that he is seriously hurt, and I am equally sure in my own mind that we must find a means of enabling him to buy on his own basis the products of industry at a price which, converted into terms of corn and wheat, he can afford to pay. To do that, we shall have to enormously improve the efficiency of distribution.

I don't allow the problem to stop with the farmer, because I am

a great believer in international business. I do not think that the United States can live behind a wall without doors. Neither do I believe it can live behind the wall with doors that open only one way. We are experiencing the very acute financial disturbance today which results from financial doors that tend to open one way. We have sent a very large amount of our surplus accumulation out of the country and have found no means for it to come back.

With the growth of transportation facilities and the growing international contact afforded by the radio, we have been brought so close to our friends in other parts of the world that it seems to me quite foolish and equally futile for us to say that we have no concern with international trade relations.

It is a definite fact, of course, that the cost of products of most industries in other countries of the world is far beneath our own, and we good Republicans have sat rather complacently behind a huge wall, protected, maintained, and continually made higher for our benefit. I don't believe that condition can continue to go on.

Therefore, I say again, from that point of view, that the final cost to the consumer has got to be lower. That is distinctly a management question, and it is one with which average management is not perhaps too well equipped to deal.

It has for many years been an accepted requirement that our engineers shall be technically trained people, that our laboratory, our research people shall be scientific people. Our sales people have had either that background of sales experience which comes as a result of years of observation of results in sales methods or have studied by one means or another the requirements of sales. And so with the production people toward whom I say the last two generations of intensive effort have been directed. I am, however, quite definite in saying that I believe management is as a whole the least equipped to deal analytically with its problems of any part of the modern organization.

That being the case—and many of us are quite free to admit it —we ask for help. It isn't too comfortable to sit up on the top of a platform by yourself and not know what is going on around you. The average executive, and I have heard many of them express this view, has had a certain lonesomeness. It has been my own feeling. One didn't know exactly what his organization was thinking. He had no very dependable means of finding out.

Direct and forcible reference has been made to the fact that he had a mass of figures before him that were too old, too stale, too

meaningless, to mean anything, even assuming that he could understand them, which of course most of us executives can't do.

So as we have looked about our organizations for help in interpreting the significance of these figures, where have we turned? We have turned to the only department from which we could expect to get help, the accounting department, and we have all too frequently been sadly disappointed. I don't think that is at all surprising.

If I understand the real purposes of this organization, I am satisfied that its title is misleading. I don't believe that controllers are very apt to grow out of cost accountants, unless they change their point of view. Let's for a moment analyze the two requirements, or rather the requirements of those two groups of people.

We require in the cost accountant a man given to meticulous detail, a man who shall be thorough, a man who shall be a mathematician. I don't need to amplify those qualifications, because they are quite familiar to you. Mr. Pinkerton referred to the accountant as the man who wore a green eye-shade, had a pencil behind his ear, and stood up behind a high desk.

The requirements of the controller are essentially different, from my point of view. He must, of course, be able to interpret those figures, and further, I should say he must know how they are made up. Presumably, therefore, they are apt to be prepared under his general direction. But that is not his principal qualification or characteristic. He has got to be a man of imagination. He has to be a man who is a student, and even something of a psychologist. He has to be more things than we have been accustomed to looking for in one man.

I made some notes during these preceding talks, and I am going to briefly refer to them.

I see that the suggestion was made that the controller should present to the chief executive all his data. That is all right. He can get along so far with that, but of course he won't be a complete success if that is the way he handles his work. He must be in touch with the department heads. He has to work so quietly, so efficiently, and so cooperatively, that what finally gets up to the chief executive may not be credited to him at all, but results will have been accomplished and he will have the support of the organization with which he is working.

The trouble with too many of you controllers—partly because you are cutting your eye teeth and new demands are being made of

you, and you haven't found out what business does want— is that you have tended to run too quickly to the front office, and following that, you have perhaps been inclined to become irritated if all of your suggestions were not adopted.

Mr. Pinkerton said that was because many of these suggestions were not completely worked out. He suggested that they were too scientific. Now you know the best starting points for working out your suggestions is with the man who knows much more about them than the chief executive does. The man to work out the power house problem is not the chief executive, because all he knows about boilers is that he has some. The man to work that out with is the superintendent of the power plant. When he realizes the controller is anxious to help him, will let him get credit for the results, if you please, then you will find, nine times out of ten, enthusiastic cooperation, and without anybody knowing very dramatically about it, that particular problem finds itself solved. Perhaps the chief executive never knows anything about it directly, except that the figures begin to look good.

Mr. Miller emphasized the fact that the accountant must be resourceful, must be tactful. I can't emphasize that enough. He also said that it was the greatest opportunity for originality which existed in the business, and I emphasize that, because the controller has in his hands all the resources, all the information, which anybody can have. He originated it. He put it together. If it is the 25th or 31st of the month when that material comes out, it is his fault, nobody else's but his. If, when it comes out, it is so stale it is of no interest to anybody else and of no value to him, that is his fault.

Of course, it is perfectly foolish to blame the accounting department for this situation, and I don't. It has been a natural outgrowth of a situation in which we asked for balance sheets as a matter of legal or credit requirement. Executives knew they had to have them, and they came along and they were stuck in the drawer, and that was all right.

The demands which are being made on the controller now are being made because management realizes that "there is somewhere in them hills some gold." And it looks to the accounting department to dig it out without knowing quite how or when or how much.

I like the idea suggested by Mr. Pinkerton, that the controller shall be the man who sits off in a somewhat detached way, detached in the sense that he is not burdened with too much routine responsibility and tries to see where the business is going. I am sure, how-

ever, if he is to see where business is going, he has to have intelligence with which to interpret that to himself first and to his associates around him. I am equally satisfied that no successful controller can be a man who is not studying, for example, questions of economics. I am equally satisfied that he will be a man who knows what is going on in the factory. He will be studying management methods, as carried on in other businesses.

That is a very large order to lay at the door of one man. It is only because it is the keynote of this convention, that that point is being repeatedly stressed. I say to you very sincerely that the largest single opportunity in any business today, in the next generation, lies at the door of that man who will fit himself to do these things which we have suggested to you that the controller ought to do.

I don't like the title. I think it is very unfortunate. These weeks since I said I would be happy to have the opportunity of talking before you, I have turned over in my mind the need for another name for the controller. I have not found a successful solution, but I only ask you to see if there is not a name which is better fitted for those functions than "controller". If you use the old French term, "comptroller", that is too awkward. A good many people can't understand it. If you use the simplified English spelling, "controller", that looks as if it is assuming a little too much at the outset. I don't like that too well. There should be some title which will describe this staff officer, which should clearly indicate to the profession the requirements which he must meet.

If the men in this Association, whose lives have been given over to the study of costs, have the vision to fit themselves for this new and larger responsibility, of which there cannot be too many, then it seems perfectly logical that those posts should be filled out of these ranks.

But I invite your attention to the fact that today an increasing number of controllerships are being filled by men who have not come up through the cost accounting ranks. I think that is solely because this new position calls for a degree of understanding, of education, of study, of psychology, which the routine work of cost accounting has not tended to develop.

I don't think there is anything more I could say if I talked a week. I thank you very much for that helpful understanding which has made it possible for me to stand up, without notes, and give you these rough ideas which I have had in my mind.

I invite you to carry away only this one thought—that business faces the greatest problems in the next generation which it has ever met, that the distress which is around us today must not be permitted to exist again if we are to maintain the present form of government, which is so dear to us. It must not happen again: The spectacle of idle plants anxious to work; of men, with wives and children, out of employment, anxious to work; of capital, anxious to be employed; and all those three units standing around on separate corners wringing their hands. If industry, if society, can't find a better solution than the one we have had, a better one will be forced on us.

I don't know any part of a business from which that solution is more apt to come than from you men who are in position to study the trends of businesses. I am not so critical as to lay the responsibility of this depression at your door, because you haven't utilized the figures which you had; nor do I lay it at the door of management because it hasn't utilized your figures. But I do say that in some way, somehow, through intelligent teamwork within, first, the organization, second, the industry, and third, society, some kind of a solution must and can be found. If my predecessors' and my views of the new controller shall aid in producing more men who will make a more definite and deliberate attempt to attack that problem, then if this convention does nothing more, it will have done a tremendously fine job.

CHAIRMAN CAMMAN: Thank you, Mr. Batt.

I know from your reception of Mr. Batt's remarks that if I were to ask the question, whether it is really so that the two preceding speakers have left nothing for Mr. Batt to say, what your answer would be.

At any rate, Mr. Miller and Mr. Pinkerton have paid Mr. Batt the high compliment of leaving what they have said at his mercy in the discussion which is about to follow. Perhaps a word of explanation is in order. Mr. Pinkerton had to leave immediately to fly to his son's school, where he is scheduled to speak at the commencement exercises. Mr. Miller was called to the telephone but will return shortly.

It is our custom at these meetings to have a period of discussion. I have seen several of you busily at work taking notes. Let us have the benefit of some questions. It is very hard to anticipate, in pre-

paring a general paper or a general talk, just what questions you have in your minds. Let us then have some of these questions.

MR. V. R STEMPF (*Partner, Touche Niven Company, New York City*): There is one question that has worried me, which arose in Mr. Batt's discussion. The impression I gathered from his message was that he believed that the type of mentality and the psychology of the man who has been trained in meticulous detail is so diametrically opposed to the primary qualities of a good controller that there is very little, if any, possibility of the one developing into the other.

I challenge that statement, and point out to Mr. Batt that he himself, in his own professional training, and certainly in his early days, had to give great care to meticulous engineering detail, and that it has not prevented him and thousands of other engineers from developing into broad executives.

MR. BATT: I am glad you challenged that. I said it partly to get an argument out of the audience. Of course, one sometimes must exaggerate a little in order to make a point clear. However, you didn't quote me quite correctly, sir. What I said was—what I intended to say was (laughter)—that if that point of view alone prevailed you did not have the basis of a background that I considered essential for the controller.

You refer to my experience as an engineer. Yes, but I had to outgrow a good deal of that meticulous point of view, which an engineer is supposed to have learned to give to his profession, and to learn to look at the broader needs of business.

I only want to emphasize there that you have to do something more than to take off the eye shade and the alpaca coat and put on a white collar. Is that clear now?

CHAIRMAN CAMMAN: Lest the speakers get the impression that the attention paid to their remarks is confined to one side of the room, let's have a question from the left.

Mr. Miller has returned. I take it you will be glad to answer any questions raised by any of the members, Mr. Miller.

MR. JOSEPH A. LENZ (*Cost Accountant, Fisher Body Corporation, Detroit, Michigan*): I think the most significant thing brought out in the morning's discussions is the planting of the seed

by the controller in the manufacturing departments. You can't expect to put something across in a day or so, but if you can have enough patience to plant your seed in the departments, you will find it will grow into a wonderful result.

CHAIRMAN CAMMAN: Any further questions? The subject has been covered so completely there are not many questions left to be answered.

MR. JOHN J. KISSELL (*Cost Clerk, General Electric Company, Erie, Pa.*): I gathered from the remarks of the speakers that the cost accountant in general has just started upon this new era of his, and that he has not progressed very far. I take exception to that viewpoint and I feel that he has progressed at least part of the way toward this new controllership idea. I think he has been growing in the past five or ten years toward that ultimate goal. Am I not right in that assumption?

CHAIRMAN CAMMAN: Here is a man who believes that cost accountants have developed far along the lines of the responsibilities of the controller, in the last five years at any rate. He thinks much progress has been made, and he rather questions the statement that there is a great deal of progress left to be made. Do I exaggerate?

MR. KISSELL: No, you do not.

CHAIRMAN CAMMAN: In other words, the view expressed by Mr. Kissell is that the cost accountant has pretty much "arrived" as the controller already.

Is there anyone who disagrees with that opinion?

MERVYN B. WALSH (*Certified Public Accountant, Detroit*): In many industries the controller has arrived. Controllers today are producing and rendering valuable aid. On the other hand, in some concerns the controller has not arrived. It is largely a personal matter and depends entirely upon the individual and the foundation back of him.

I have gone on record at three chapter meetings as having agreed with Mr. Batt, that a cost accountant as such has no future. To have a

future, a cost accountant must supplement and amplify technical cost training in a more general sense.

A good many accountants are serving today as presidents and other types of executives of various companies. In each case it will be found that these executives were not cost accountants in the strict sense of the word. These executives are men who have had a general accounting training and an insight into the financial policy of a company. They are men of the executive type and possess the proprietorship type of mind. It is important for accountants to acquire the viewpoint of the proprietor. The proprietorship type of mind, coordinated with information which accountants have, would help substantially in the management of any business.

The cost accountant must not only develop along lines of factory procedure, but must broaden his scope and apply what is learned from factory procedure to the general management of business. Accountants are doing a good job today in the management of business.

CHAIRMAN CAMMAN: Thank you, Mr. Walsh.
Are there further questions?

MR. W. C. ARMSTRONG, JR. (*Chief Accountant, Rockbestos Products Corporation, New Haven, Conn.*): I enjoyed very much Mr. Batt's remarks about the future, that we should not have recurring depressions if this country is to continue.

I would like to ask Mr. Batt if he won't elaborate a little more on what he was thinking about when he said it would be possible for the controllers to show the way to avoid future depressions. I am wondering if he has in mind unemployment insurance. I would also like to know if he doesn't think that it is the controller's job to put unemployment insurance into industry.

MR. BATT: I would say, very briefly, that I think you are perhaps putting words into my mouth when you say I said the controller would show the way out. I said the controller was the one to whom management first turned for aid in the attempt to find the solution. But one must not forget that this attempt is of comparatively recent origin. Up until this particular time—certainly at the middle of 1930—management had no conception whatsoever that it was to face such a period of lack of demand and consequent unemployment of an extent remotely comparable to what has happened.

One has only to look at the printed record of 1928-1929 of many of our best economists and most of our leaders of business to find the frequent repetition of the statement that we had passed the cyclic disturbance of business, and that we probably should not again see the same old automatic forces of prosperity and depression working in the same way.

So this thing has come to us totally unprepared, very much as a cyclone, a hurricane, that strikes a village and wipes it out. We don't know what the answer is. We have only intelligence enough to realize there must be an answer. We have every reason to be thankful that labor has taken this very grave shock as gracefully, as kindly and cooperatively as it has. I doubt if there is any country in the world in which it would have accepted its share with the same understanding spirit that it has here. But endurance can be carried too far.

We shall have, in my opinion, unemployment insurance forced on us by regulation, if we don't do something ourselves to provide it or to provide against its necessity. We older men will remember how much argument, discussion, criticism, there was everywhere about workmen's compensation. It was one of the worst socialistic doctrines that could have been pressed down on business. We adapted ourselves to it, and I think, on the whole, are rather thankful for it.

I don't mean to conclude that unemployment insurance is a thing of such simplicity. It is one of great magnitude, and I don't believe anyone clearly sees the way out. But, in my opinion, a way must be found, and it does seem that the controller, with the management vision and the tools to which Mr. Miller referred, the data and the ability to analyze it as nobody else has, when considering that as a problem of a part of the industry, can throw very much needed light in the direction of some kind of solution. I, of course, in answering your question, do not attempt to hazard what it is.

MR. ALBERT E. NEALE (*City Auditor, Springfield, Mass.*): When we talk of cost, we have been considering it more on the basis of industry, with no retrospective reference to government. For the past three years I happen to have occupied the position of city auditor of Springfield, and in that capacity became more interested in the cost of government.

I gather from the talks here today that this super man, the controller, giving the needed help to management, might possibly draw the country as a whole out of this situation.

I would like to ask Mr. Batt, for instance, if, in his opinion, we haven't got to consider the cost of government in relation to present conditions as well as the cost incident to industry.

MR. BATT: Yes, of course, there is no other answer to that. I emphatically feel that we do. The trouble with us—just one more preachment I want to leave—is we have been too busy with business and not busy enough with our civic responsibilities. Whenever we realize that the man whom we elect in our own town, in our own state, and in federal government, has a very direct effect on the problem which we are attempting to solve, in the running of our businesses, then we will have gotten somewhere.

I unquestionably agree with Mr. Neale that we have got to pay more attention to the cost of government. It has gotten out of bounds, and the same type of mind which we are suggesting as needed in industry, is certainly needed in government; but it needs something much more than that, because in industry the pressure comes from the stockholders, through them to the directors, through them to the president, and down the line. The stockholders of the city, of the town, of the state, have got to begin to apply pressure, and when they do the demand will come, as I see it, for more intelligent city, state and federal government management.

How are we to meet that demand? Where is the type of man with the mind such as industry has already developed to help us?

MR. EMORY A. AUSTIN (*Auditor, Hammermill Paper Company, Erie, Pa.*): The gap between the controller and the management certainly has been emphasized this morning, and I am wondering if we are not missing an opportunity that we have right at home. Where do we go from here? How do we start this thing? It seems to me, within the point Mr. Batt just mentioned, there is a wonderful opportunity.

Our own chapter has just appointed a committee to formulate the accounting policy for the Directors of the Poor and local relief work, the administration of which has been largely taken away from the former director and placed under a business man's responsibility. The Erie chapter has been asked to dictate the policy for setting up the new records and possibly for making an audit of the past records, a very delicate situation having to do with the proper accounting for

the disbursement of both local and state funds. Our community has confidence in our ability to handle practical matters.

I am wondering if all of our chapters are alive to the opportunity of bringing into our meetings, management. At Erie we also have tried, and have been fairly successful, in bringing into our meeting the "brass hats". Meeting them in this way, I believe, you do approach the problem of getting closer together, better than you can approach it in any other way.

I would like to also throw out the general thought that the cost accountant, or the controller, has to team up. As Mr. Batt put it very nicely, you have to get into the confidence of the different department heads and get on common ground. You also have to get the confidence of the boss. He has hobbies. One way to approach this is to frequently throw out an invitation to him to get into a golf match with you or to play baseball or whatever he likes to do.

MR. GEORGE M. ARISMAN (*Controller, Armstrong Cork Company, Lancaster*): I would like to express myself on this subject. I came here for this morning's session, expecting to find more of the economist's side presented than there has been in this meeting. I am not an economist nor the son of an economist, but am one of the new controllers in that I am in the position only for a very short time. I am trying to do my job as a new controller.

I really expected to hear what we might expect from the controller in planning the future, that is, what might be expected from business in 1937 and in 1939 and 1940, or as illustrated, at some future date. I think this morning we have stopped at the present problems more or less without taking into consideration the bearing of the future.

In answer to the question that was raised over here, I think one of the duties of the new controller is to protect himself for the future, to look ahead, to help his company plan ahead, so that he may overcome some of the mishaps which have been experienced in the past ten years.

I think that the controller should equip himself in such a way that he can coordinate the problems of distribution, production, management, and control, and wisely guide his company in the future. In doing so, it is going to be necessary for this new controller to make a careful study of the costs and problems of business as related to the future as well as to coordinate his activity, his problems, in order

to make up the proper projects and their analysis, and give the proper guidance to his management.

I would like to leave this thought with you.

CHAIRMAN CAMMAN: It is perhaps my fault, Mr. Arisman, not to have made clear that this morning's session is the first in a program just such as you have described. It is our object this morning to look a little bit forward—to appraise our position—and then with the benefit of the experience of recent years, to look forward and see what our opportunities are.

This afternoon we are to follow this "appraising" morning session, by taking up the subject of organization; in the following sessions, tomorrow and Thursday, we shall take up, in turn, selling and distribution, production, financial management, purchasing and engineering, in their accounting aspects. In other words, what is expected of the controller by executives in these departments, and what the controller is doing to meet the expectations.

In closing this meeting, I wish to remind you all that these gentlemen who have spoken to us have come here this morning at considerable inconvenience and trouble, to try to picture for us their sincere belief in the future that lies ahead in accounting, as a factor in our business organization in America. I suggest we owe them a rising vote of thanks.

. . . The audience arose and applauded . . .

SESSION II

THE EVOLUTION AND BASIC PRINCIPLES OF BUSINESS ORGANIZATION

TUESDAY AFTERNOON, JUNE 14, 1932

ERIC A. CAMMAN, *Chairman*

C. Oliver Wellington was graduated from Harvard in 1907 and is a Certified Public Accountant of the states of Massachusetts and New York. He is a member of the American Society of Mechanical Engineers and of the National Association of Cost Accountants. He is also a member of the Board of Examiners and of the Council of the American Institute of Accountants. Mr. Wellington has given numerous addresses and has written many articles on general accounting and cost accounting subjects.

Harry Arthur Hopf was born in London, England, and received his early education there and on the Continent. He continued his studies after coming to the United States and completed his academic education at New York University where he has had conferred upon him the degrees of Bachelor of Commercial Science, Master of Commercial Science and Master of Business Administration. He has been a member of the faculty of New York University and of Columbia University. His early business experience was gained as an administrator and organization specialist in the insurance field, and from 1915 to 1917 he was Vice President of the Insurance Institute of Hartford, Conn. Before the close of the World War he was chosen as organization counsel by the Federal Reserve Bank of New York and served in this capacity until 1922 when he established the firm of H. A. Hopf and Company, Management Engineers. His broad experience as an organizer and administrator of commercial, financial and industrial institutions has furnished him an unusually rich background for his many publications and public addresses. Mr. Hopf has always been active in the work of the principal scientific and management societies, and is a member of several of them, both in this country and abroad. He is Past President of the New York chapter of the Society of Industrial Engineers, and is now President of the National Office Management Association.

THE EVOLUTION AND BASIC PRINCIPLES OF BUSINESS ORGANIZATION

PRESIDENT SANDERS: Ladies and gentlemen, today is Flag Day. We will all stand at attention while the bugle sounds a salute to the flag, after which Harry Whitney will lead us in a verse of "America." Will you please stand?

. . . The audience stood at attention, after which they sang "America" . . .

PRESIDENT SANDERS: This morning we made what appears to be a very good beginning in defining the duties that lie before us as accountants and cost accountants during the coming years. We have had true business executives of a high order, telling us what will be the problems of business and what we must contribute to the solution of those problems. We are on the way now to discussing how we are going to deliver in the requirements which have been set before us this morning.

Once more I turn the chair over to Eric Camman, who will take charge of this meeting.

CHAIRMAN CAMMAN: For me to say more than a few words here would be to take up time which can be used by our speakers with more benefit to all of us. We conduct this afternoon the second in our series of six technical sessions. This one is to deal with organization—the basic principles of organization, and the evolution of organization—in logical approach to the sessions which follow tomorrow and the next day, at which the respective departments of business organization will be taken up—sales and distribution, manufacturing or production, finance, engineering and purchasing.

Our speakers this afternoon on the subject of organization are two well-known men.

C. O. Wellington, partner in the firm of Scovell, Wellington & Company, is known to all of you. He was a partner of the late

Mr. Scovell, one of the founders of our Association. He is a graduate of Harvard, (A.B. '07), a Certified Public Accountant of Massachusetts and New York, and a member of a number of societies. He is a member of the Board of Examiners and of the Council of the American Institute of Accountants. He is also a member of the American Society of Mechanical Engineers. He has written many articles and given many addresses on accounting and management topics.

You will now hear Mr. Wellington present his paper on "The Basic Principles of Organization." It is an honor to present Mr. Wellington.

BASIC PRINCIPLES OF ORGANIZATION

C. Oliver Wellington

Partner

Scovell, Wellington & Company, New York, N. Y.

IT IS often said that "Management is all there is to business nowadays". In the popular sense this is true, for the term "management", thus commonly used, is meant to cover not only the designing of the organization and its use, but also the formulation of policy and its execution.

From the academic point of view this delineation of the scope of management may be challenged by some, on the ground that a classification which is to be preferred designates administration as the determination of the direction or policy to be pursued, organization as the formation of an effective means of applying united effort, and management as the effective execution of the administrative policy through the organization provided.

What Organization Means

Whether the popular or the academic view is taken, however, it is quite apparent that the factor of organization, which is the general subject I am to discuss, is simply a means to an end. As Oliver Sheldon, the English author, states, in his interesting book on "The Philosophy of Management," it represents the combining of the work to be performed with the faculties necessary for its execution, so that the duties, thus determined, provide the best channels for the efficient, systematic and coordinated application of available efforts.

Organization is not control, although intimately related to this. Organization is the construction of a system based on two determinants, work and men. Control or command, as a part of management, uses that system, but does not design it. Organization may be developed to facilitate control, but does not itself exercise control. Moreover, organization is not planning, although closely connected with this also. Organization provides the channels for the flow of work, whereas planning, as a phase of management, determines the volume of work passing through these channels. In other words, planning and control are used to put to maximum use the organization means available.

Basic Premises

This, in general, is what organization means; but in connection with my further discussion of the principles involved, it should be understood that my remarks are based upon the three additional premises listed below:

1. Organization covers only those human forces upon which fall distinct divisions of responsibility in the enterprise.
2. The exact character of organization in an enterprise is determined by the nature of the activities undertaken and the purposes to be accomplished.
3. Regardless of differences in details, however, all organization plans possess certain general characteristics.

As to the first premise, regarding the limitation of organization to human coverage, some management engineers have suggested that the term "organization" should be looked upon as including not only human forces but also the plant and other material factors. I prefer the narrower view. Management, to be sure, covers all resources and activities of a plant; but organization, in the purest sense, deals only with human forces. Changes in methods and facilities used may have to be considered in connection with organization, but only because they necessitate changes in the alignment of duties and responsibilities.

As to the second premise, it must be obvious that the details of organization differ in different enterprises. Non-industrial enterprises, for example, such as the church, the civil government, the army and the navy, educational and charitable institutions, exhibit varied organization characteristics. Industrial enterprises show still other variations in organization details, because the results to be obtained, the

manner in which they are obtained and the human material available for use are likely to differ in individual cases.

Moreover, different enterprises may lay different stress upon some factor of organization, so that the emphasized factor overshadows the underlying principles of organization. With a particular purpose in view in an enterprise, for example, the principle of labor division for specialization of skill may be all important; in another case this may be less important than the proper control and direction of the large number of employees. In still other cases the primary aim may be organization improvements in scheduling and dispatching so as to bring order and efficiency into a complex situation, or the goal may be the provision of a proper accounting and statistical organization in order that the management may properly check the results of operations.

Despite differences in detailed practices and in emphasized aims, however, it is apparent to the trained observer, as stated in the third premise, that all organization plans possess certain fundamental attributes. In all cases the need for a close control of affairs by executives results in organization divisions which make plain the lines of authority, which place responsibility definitely and which secure proper discipline. Moreover, the necessity for economical and efficient operation causes attention to be given to the assignment of men to duties in accordance with specialization and skill, which in turn means a greater or less definition of duties along the lines of functions, depending upon the type of organization used.

Basic Plans of Organization

There are a few basic plans of organization, with only one of which, the functional, I am mainly concerned. In order that you may better understand my remarks regarding this particular plan, however, it will be advisable for me, by way of definition and comparison, to explain briefly how the basic principles of organization are expressed in the various plans.

The four basic plans of organization are as follows:

1. Line
2. Line and Staff
3. Committee
4. Functional

Line Organization

In the popular mind perfect organization usually is associated with the army or the navy, with its exact division of duties and authority, and its stern discipline that secures immediate obedience to instructions and precision in results. The same brand of organization transferred to industrial work has given rise to what is called line or military organization. Here the "captain of industry", at the head of his "industrial army", uses an essentially military division of authority.

Under the line form, for example, we have the board of directors, with authority passing down to a general manager, to whom report the various departmental heads. The head of each department is responsible for the entire execution of its particular process, not only for its technique but also for its specifications and ingredients, for the purchase of the needed materials, for the planning of the work, for the transportation of the materials and the product, for the costing of the processes and the necessary records. In other words, the functions are divided departmentally and are repeated in each department, each department being a complete self-supporting unit irrespective of other departments, with definite and absolute authority in the hands of its head under the general manager. Needed research, comparisons and planning are carried on by the manager and the foremen, and the clerical work is done by the same individuals or by staffs under them.

Under line organization, ideas and orders are passed down strictly through the line of authority. The main duty of the departmental manager is to carry out the work of his department, with whatever assistance he requires, under the orders of the general manager. He delegates the work of the department, not by functions but by definite sections of process of manufacture. Each section is under a foreman who is responsible absolutely for the work of his section, except for those particular items which the manager does not delegate. With the work thus subdivided, there are no inter-relationships between departments or between sections, aside from such coordination as is provided by the general manager for departments and by the departmental manager for sections. The objective of the entire enterprise is the summation of the individual objectives of the different managers, under the directing force of the general manager.

The inherent defect in this type of organization lies in the fact that the immediate goals of army operations and industrial operations are

not the same. Military organization is for an emergency; its success or failure is shown by the results accomplished at a moment of crisis. For this reason military organization follows a severe line, all else being subordinated to certainty of obedience and definiteness of procedure. The functional idea was used to a considerable extent at the time of the World War through an effort to assign men to responsibilities in accordance with their training and capacity, but, at best, under the military organization the use of men must be based upon the necessity of the moment. In an industrial enterprise, however, the organization is not designed primarily for a crisis, but for continuous operation to produce the desired earning power, with every man working at his maximum to this end.

It is not surprising, therefore, that the use of line organization in industry has shown the following disadvantages, which have encouraged departures from it:

1. It is an autocratic system and suffers the evils of autocracy.
2. Each department manager and foreman carries out ideas and orders independently, and, too often, differently.
3. The technical knowledge brought to bear in any department or section is no greater than the individual manager or foreman can supply.
4. Line officials tend to build up a resistance to profitable changes.
5. Promotion depends upon vacancies and is very slow.

In this modern day industrial enterprises seldom use a strictly line organization, but this does not mean that the principle is abandoned. When the duties and responsibilities of subordinates are to be clearly defined, when discipline is of major importance in the lower reaches of the organization, the principle of line authority can be utilized, even where the main phases of the organization exhibit other forms of control.

Line and Staff Organizations

The first improvement in line control in the army was to bring specialized knowledge to bear in order that individual activities might be more intelligently directed. To the line, as an organization for execution, was added a staff of experts, as an organization for constructive thought.

The significance of this change can readily be seen in connection with its application to industry. The manager of an operating depart-

ment has little or no time for investigating, analyzing, and deliberating, but he often needs advice. This need is met through a distinct staff for consultative, advisory and research service. The staff officials may or may not be distributed among the operating departments and actually work therein; in either case they have no direct authority over the line of executive officers, and they, in turn, are independent of the latter.

The line and staff organization strictly differentiates between thinking and doing—between the actual execution of production by the line, and the work of analyzing, testing, comparing, and investigating on the part of the staff. In other words, the chief function of the staff is to analyze and point out the road to maintained or increased earning power, with the work of obtaining the desired result falling to the responsibility of the line.

Where the functional type of organization is used there is a minimized need for staff assistance, because the functional officers, who are concerned with individual activities, are presumably experts in their own lines. In a sense, therefore, the line and staff organization, with the staff functionally organized, is midway between a line organization and a functional organization.

The advantage of the line and staff organization, as contrasted with the line organization, is that it brings to bear specialized knowledge, thereby overcoming a marked disadvantage of the straight line form. Furthermore, the combined line and staff form affords greater opportunities for advancement of able workers who exhibit proficiency in some particular field. The chief disadvantage of this type, however, is that although expert knowledge is made available it reaches the workers only through the line officers. With such second-hand passing of technical information, there is always the possibility of error, reconstruction or suppression.

Committee Organization

The third type of organization which I mentioned earlier, the committee type, is a supplementary rather than a completely different form, but in some cases committee activity is introduced to such an extent as to constitute the governing principle of the organization. The method used is simply to replace individuals by committees, in the belief that two or more heads are better than one. The business is conducted through regular meetings of the directors and officers,

and through committees which are appointed to take charge of special fields and to report to the meetings.

In any industrial enterprise, of course, the board of directors constitutes the highest committee, and below this may be a committee on management, with sub-committees concerned in each branch of the business, to some of which representatives of the workers may be admitted. Some committees may be called executive, but they are so only in the sense that they can make decisions on such subjects as executive officials may choose to submit to them. Other committees are solely advisory or coordinative, in that they bring officials together to insure that each pursues a policy which does not deviate from a common line. Committees are not supposed to interfere with the direct line of authority, and the departmental or functional heads remain responsible for the work allotted to them.

It is not always realized that the introduction of a committee may affect organization as much as management, and that the appointment of a permanent committee is essentially a change in organization. The establishment of committees, therefore, should be related not only to the needs of management, but also to the existing plan of organization; and when a committee is appointed to take over the performance of a certain task already within the purview of some individual's duty, the list of individual duties should be amended accordingly.

A disadvantage of the committee form of organization lies in the fact that a multiplicity of ideas and comment may kill ideas or delay necessary action. If this point is guarded against, the committee form is useful, as a subsidiary type of organization, to bring to any other type, where needed, the benefits which accrue from an interchange of ideas and a stimulus to cooperative action.

In the case of functional organization, in particular, the need for committees is vital for the sake of coordinating the work of the various functions. Since the functional plan is based upon a scientific distribution of functions, it is possible to determine readily the essential members for any committee, not on the basis of the personalities involved, but on the basis of the duties performed.

Fundamental Ingredients of Functional Plan

I have now come to the fourth or functional type of organization, which in its pure form makes a positive break away from the line or line and staff forms, and eliminates the line executives such as super-

intendents, foremen, etc. In their stead is a group of experts, each dealing with the workers directly or through expert instructors.

The basic idea behind the functional plan of organization is that of the function or—to express it in the fewest possible words—the work to be done. The first essential in any organization is work to be performed, and the division of such work into related sections. Of course, this conception is by no means confined to industrial organizing; indeed, it is the basis for social organization, as pictured by the economists, and for organization of the life of the individual, as discussed by the philosophers. In its industrial aspect, the conception merely goes further in laying down the broad principle that for the proper execution of work involving more than one individual, the work shall be divided according to a scientific analysis into divisions corresponding to the exercise of employees' faculties.

Nevertheless, as the English author I previously mentioned points out, it must be realized that the existence of work to be done is not the sole consideration in functional organization, for the proper handling of this work requires attention to certain other points. In the first place, a function is dependent upon an object, in the sense that the object to be attained determines what work is necessary, and consequently what functions are involved.

Furthermore, the functional concept requires consideration of the exercise of human faculties. Inasmuch as production is merely the sum of the results of the exercising of various functions, the production—if it is to be attained—must be divided into functional items which are within the normal capacity of employees, singly or collectively.

Then, too, it must not be lost sight of that each function is not an isolated unit, but that intimate relationships, in terms of work, exist between the persons, or groups of persons, who contribute their various faculties to the discharge of the various functions. Organization is composed not only of functions and individualities exercising these functions, but also of many and varied work relationships involved in the aggregate procedure necessary for the economical attainment of production.

Nor should it be forgotten that functional organization may have to give some consideration to methods. As I said earlier, organization as such has no direct concern with products, processes or machines, for it deals only with the arrangement of the functions whereby the products are made, the processes operated and the ma-

chines worked. Nevertheless, if changes are made in methods so as to cause changes in duties, then the organization plan has to consider the extent to which the new method involves the work to be accomplished by, or the inter-relationships between, individual or group functions.

Classification of Functions

These, then, are the considerations to be borne in mind in determining the detailed functions to be provided for in a functional plan of organization. Exactly what functions apply to a particular case depend upon that case. In general, however, regardless of the industry concerned, there are certain functions which must be performed effectively in any plant.

Back in 1908 Henri Fayol, the noted French industrial engineer, stated that all operations in business undertakings should be divided into the following six groups:

1. Technical operations (production, manufacture, etc.).
2. Commercial operations (purchases, sales and exchanges).
3. Financial operations (finding and controlling capital).
4. Security operations (protection of goods and persons).
5. Accounting operations (stock taking, balance sheet, costing, statistics, etc.).
6. Administrative operations (planning, organization, command, coordination and control).

Other engineers, authors and educators have expressed their generalities in somewhat different terms. As one illustration, I might cite the summary given by P. F. Walker in his book on "Management Engineering." According to his view, the basic functions to be exercised in the conduct of operations by a producing company, enumerated not necessarily in the order of importance, are as follows:

1. Management or control.
2. Design.
3. Equipment.
4. Operation.
5. Purchasing of materials.
6. Sales.
7. Accounting or comparison.

To Mr. Walker's mind, these are not artificially chosen divisions of production activities; they are absolutely necessary and ever-pres-

ent functions to be performed, whether one wishes to or not, and whether one recognizes them in the act or not.

I agree with him that wherever men work to a common purpose in production, there is control of one sort or another. Somehow, somewhere and by someone, the design of the product is determined. Something in the way of equipment has to be selected and maintained. Then obviously there has to be operation itself. For this, material must be used, which must be procured in proper amount and kind. Then, at the end of production, comes the disposition of the product through sale; and touching all the other functions, is the recording of results through accounting and statistics.

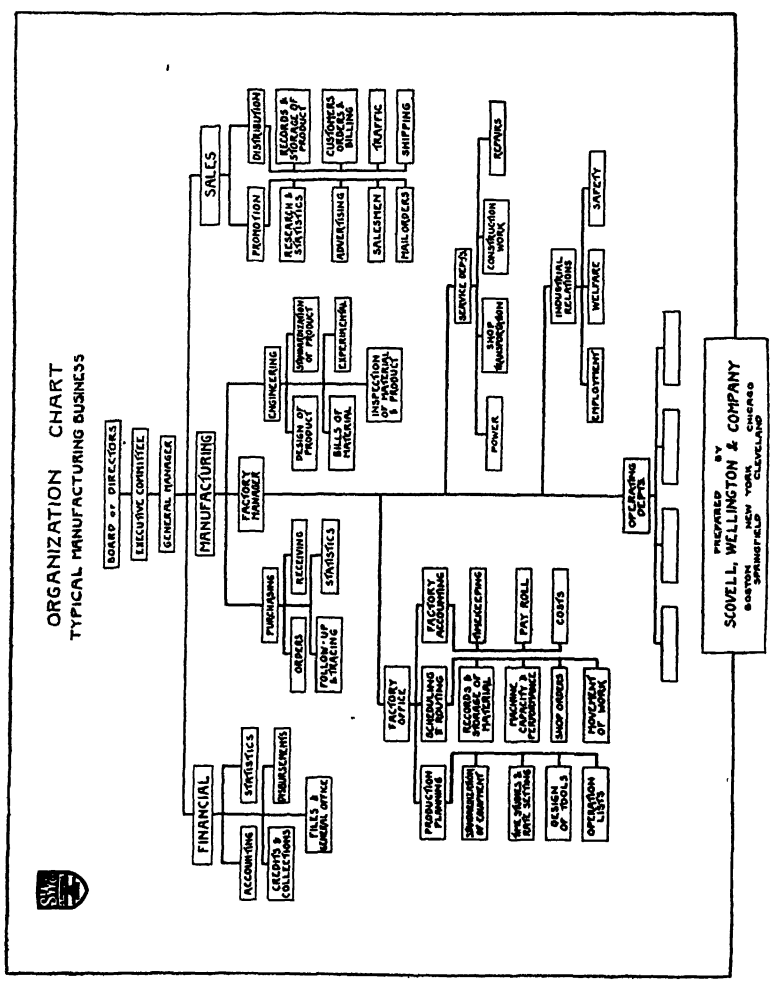
It seems to me, however, that in recent years, in line with the general trend toward simplification, there has been a tendency to reduce the basic functional outline to a smaller number of divisions. I have in mind the fundamental outline, as illustrated in the organization chart for a typical manufacturing business, Chart 1, which embodies management as the basic or coordinating function and then the three primary divisions of financing, manufacturing, and selling. These are what might be called the great functional divisions, although, if you prefer, you can remove from the manufacturing function the purchasing function and dignify it with a separate title as the function of procurement.

Before I leave this matter of classification, I want to explain the emphasis which I just placed on management as the basic or coordinating function. The danger of functional organization is that coordination may be lacking. It has, however, the offsetting advantage that the entire business is divided into logical sections, thus leaving the head executives free for the work of coordination alone. Functional organization, in other words, recognizes this coordination as the highest function of all. R. A. Feiss stated this point well in the Taylor Society Bulletin in 1919: "Just insofar as functionalization brings the necessary and effective decentralization for action, so does functionalization of itself make essential another function. When there are separate entities of an organization, each responsible for acts and results in its own line, and all aiming at the same ultimate object, it is necessary, in order to obtain harmonious and effective ultimate action, to recognize the necessity for coordination, and to treat it as a distinct and basic function of the organization". Functional organization without proper provision for coordination is extremely

dangerous, and full provision should be made for the chief executives to handle this point with whatever staff or committee assistance may be necessary.

Necessity of Organization Chart

Regardless of the plan of organization adopted, it is, of course, vital that the exact form in use should be clearly indicated in an organization chart. Such a chart should show (1) the distribution of functions and (2) the distribution of employees. Such a chart



shows the relationships between individuals, and the line of delegation of authority. It may be supplemented by a work-procedure chart to show the relationships of individuals as a result of their participation in carrying out a functional piece of work. In other words, whereas the organization chart works up and down through the various lines of authority, the procedure chart works horizontally to show the relationships involved in the exercise of the various functions.

No One Ideal System

Thus far, then, I have discussed the four basic plans of organization, which, alone or in combination, are to be found in the industrial world. I make no attempt to say which one is best under all circumstances, for no such claim is justified for any one organization form. There is no "ideal" system, except for a given set of circumstances. In other words, the requirements of each installation are the determining factors in the selection of the type of organization which can be utilized most advantageously.

I have in mind, for instance, the case of a company manufacturing large units of mechanical equipment involving special engineering service on each job. The department heads were spending too much time on routine details, and the larger questions of policy, development, methods, etc., were not receiving adequate attention. Moreover, it was impossible to place responsibility and measure performance in the branch offices and the Estimating, Engineering and Construction Departments.

This situation is typical of the many organization failures where too many employees report directly to a department head with minor matters of administration, or where, to go to the other extreme, no proper control over a department is provided at all. To correct the existing defects we made all branch offices subordinate to divisional sales managers, who, in turn, reported to the assistant sales manager. We likewise made the publicity and promotion, the sales engineering and the general sales departments subordinate to the assistant sales manager. We then assigned to the latter the duty of handling all routine matters, and passing on to his superior, the general sales manager, only the larger problems involved. Thereafter the senior executive found ample time for planning, developments, etc.

Before our engagement the branch offices had been merely selling agencies, confined to the making of contracts. All estimating, engineering and construction work had been performed by the home office. As a result of our investigation, all branch offices were made self-

contained to the extent that each was responsible for the entire job, from the initial contact through estimating and construction to final completion. This arrangement made possible the allocation of expenses to branch offices, and the measurement of the profit of each one. In this case, therefore, the principle of decentralization through a line and staff organization found successful application.

In another case, the client operated thirty manufacturing units and twenty sales offices. Each branch sales manager controlled a clearly defined territory and the shipments from the one or two manufacturing plants located in his district. It had, therefore, been the custom to consider that the branch manager was generally in charge of everything in his district, from manufacturing to selling, as well as handling and collecting the customers' accounts. Before making our investigation, it seemed to us that such decentralization was the ideal arrangement for that particular company; but a study of all factors involved indicated that a centralized plan of organization would be better, and the results have proved that to be the case.

This company had an officer at headquarters nominally in charge of all manufacturing, but actually his activities were that of a staff officer, because the local branch manager had for so long been in the habit of telling the plant superintendent what he wanted. As a result, there was a wide difference in efficiency of operation in the several plants. The same was true of the accounting activities. Some branch offices were well and economically run, while others were very much over-manned. Some branch managers were devoting an unreasonable amount of time to financial and statistical reports when they might better be spending their time on the actual selling of the product.

Centralizing as much of the branch factory and branch sales office work as possible at headquarters, but still under a functional plan of organization, resulted in very large clerical savings in addition to much better control. The plant superintendents report to divisional superintendents, who in turn report to the officer in charge of manufacturing located at headquarters. The branch managers, being chiefly concerned with sales, report directly to the sales manager at headquarters; and such accounting work as is done at the branch offices, particularly the handling of customers' accounts, is done by the local branch accountant who reports directly to the controller at headquarters for instructions as to the way the work is to be performed, although, for disciplinary control, he is under the branch manager.

These two cases, both fairly large companies, show satisfactory

results from decentralization and centralization, where for each a careful study of conditions indicated that a change in the organization plan would better fit its needs.

Scores of illustrations might be given to emphasize the importance of fitting an organization plan to a business rather than attempting to change a business to fit an organization plan. It is most important that we consider each case in the light of its own facts and without preconceived ideas of what plan is generally the best.

Sound Organization Does Not Just Grow

Whatever type of organization may be in use in a particular case, I think it is important to emphasize the fact that it is certain to be partially ineffective unless it has been scientifically developed.

The great defect in organization work is the fact that so many organizations, like Topsy, just "growed", and every management engineer knows that an organization plan which is the result of self-expansion is almost invariably stunted or over-developed in some way so as to interfere with maximum effectiveness.

The reason for this condition is the fact that self-directed changes in organization are usually the result of belated hindsight. The proprietor of a small business normally has little trouble with its organization, since he determines and is the means of executing the entire policies of the business. With the growth of the business, he finally realizes that responsibility and work have to be distributed and authority has to be delegated. With this shift comes an increasing task on the part of the proprietor to coordinate and direct the activities of those to whom he has delegated part of his former duties. Sometimes he realizes—but more often it is the succeeding generation which realizes—that there has gradually developed a lack of co-ordination in the organization, with wide differences in the individual capacity of employees, unequal division of work, inefficient and uneconomical methods, and undefined duties and responsibilities.

At this point, therefore, the original or succeeding owner has, later than should have been the case, awakened to the fact that the form of organization in use allows the management to operate but does so by slow and costly methods. This owner, and all like him, would have profited much from a more timely realization of a very important point in organization work—namely, that while organizations have been and can be scientifically constructed, they do not grow scientifically, and rarely is a self-expanding organization free

from the necessity for a more or less painful operation to enable it to serve the management most effectively.

Summary of Principles

When an organization plan is being scientifically developed or corrected for an enterprise, there is no cut-and-dried formula to be applied. Management engineers know, however, that every successful organization adheres to certain requirements in scientific organizing, which may be summarized as follows:

1. The functions of the business should be divided, regardless of individuals, in accordance with a scientific analysis of the work to be accomplished, with proper consideration of the faculties to be used and the inter-relationships involved.
2. Like functions should be grouped and clearly defined, especially in the case of borderline duties.
3. The chief executives should attend closely to the matter of securing coordination and cooperation throughout the entire organization.
4. Authority and responsibility must go hand in hand. No operating official should be forced to take the responsibility without having been granted the proper authority, and none should be allowed to exercise any authority inconsistent with his responsibility.
5. All organization assignments should be made definite. An organization chart should be built upon a carefully studied outline of operating procedure, and fully detailed instructions should be prepared as to the part to be taken by each official, with limitations clearly designated as required. This chart should be kept revised up to date.
6. The executive management should be supplemented by a committee organization to provide the proper coordination of functional activities and by such expert staff organization or outside professional advice as circumstances require.

Advantages of Scientific Organization

When an organization has been scientifically developed, or at least has been scientifically surveyed and corrected from its state of abnormal growth, it is to be expected that certain advantages will be gained. The thought which I wish to leave with you, therefore, is that the main advantages which result from scientific organizing may be summarized as follows:

1. Permanence, or the capacity of the organization to continue and develop despite changes in personnel and methods.

2. Concentration of skill and effort along the line of individual capacities.

3. Individuality, or the sense of personal pride in results accomplished.

4. Cooperation, or the effective working between inter-related functions and faculties.

The fundamental test of any organization plan is its ability to provide the means for the best management of the enterprise. When an organization plan has been scientifically prepared so as to produce the above results, the management has the means at its disposal for producing the desired earning power. The rest is up to the management.

CHAIRMAN CAMMAN: Thank you, Mr. Wellington, for your very thorough paper. The next speaker on this afternoon's program, Harry Arthur Hopf, is well known to many of you. He is the founder and active head of H. A. Hopf & Company, Management Engineers and Consultants of New York City. Mr. Hopf was born in London, England in 1882, and received his education there and on the Continent. His university work was carried on at New York University, where he specialized in the Department of Management, and that university has honored him with a number of degrees. He has three of which I know, (B.C.S., M.C.S. and M.B.A.) He also is a member of the faculty and a special lecturer at N. Y. U. He has been awarded a medal by the New York University Alumni Federation for distinguished service to the University.

Mr. Hopf spent his early business career in the insurance field, being very well known as an organization specialist. Later he spent some time, a number of years, as the organization specialist for the Federal Reserve Bank of New York, which position he finally left to establish his present firm. He is identified with many associations. I will not take the time to enumerate them all, but it might be mentioned that Mr. Hopf has recently been elected president of the National Office Management Association.

Without further ado, therefore, gentlemen, I have pleasure in presenting Mr. Hopf, who will speak on "The Evolution of Organization."

THE EVOLUTION OF ORGANIZATION

HARRY ARTHUR HOPF

Head of

H. A. Hopf and Company, Management Engineers, New York, N. Y.

IN THE Holy Scripture, Exodus 18, 5-27, it stands written:

"5. And Jethro, Moses' father-in-law, came with his sons and his wife unto Moses in the wilderness—

13. And it came to pass on the morrow, that Moses sat to judge the people; and the people stood about Moses from the morning unto the evening.

14. And Moses' father-in-law said, 'What is this thing that thou doest to the people? Why sittest thou thyself alone, and all the people stand about thee from morning unto even?'

15. And Moses said unto his father-in-law—

16. 'When they have a matter, it cometh unto me; and I judge between a man and his neighbour—.'

17. And Moses' father-in-law said unto him, 'The thing that thou doest is not good.

18. Thou wilt surely wear away, both thou and this people that is with thee; for the thing is too heavy for thee; thou art not able to perform it thyself alone.

19. Hearken now unto my voice, I will give thee counsel and God be with thee: Be thou for the people before God, and bring thou the causes unto God:

20. And thou shalt teach them the statutes and the laws, and shalt show them the way wherein they must walk, and the work that they must do.

21. Moreover, thou shalt provide out of all the people able men, such as fear God, men of truth, hating unjust gain; and place such over them, to be rulers of thousands, rulers of hundreds, rulers of fifties and rulers of tens;

22. And let them judge the people at all seasons; and it shall be, that every great matter they shall bring unto thee, but every small matter they shall judge themselves; so shall they make it easier for thee, and bear the burden with thee.'

24. So Moses hearkened to the voice of his father-in-law, and did all that he had said.

25. And Moses chose able men out of all Israel, and made them heads over the people, rulers of thousands, rulers of hundreds, rulers of fifties and rulers of tens.

26. And they judged the people at all seasons; the hard causes they brought unto Moses, but every small matter they judged themselves.

27. And Moses let his father-in-law depart; and he went his way into his own land."

Here we have perhaps the earliest recorded instance in all human history of planned organization and of the use of outside counsel in management. In form simple, in action direct, with authority descending from the supreme leader to the ruler of the smallest group, the type of organization described was evidently intended to promote dispatch and to distribute the burdens of government.

Remote as the story of the children of Israel is to the present day, the plan of organization which they adopted in the wilderness has persisted, with modifications, throughout the ages. In fact, both in military and in civil affairs, at every stage of the evolution of civilization, the pattern chosen by Moses will be found woven into the organization fabric.

It is perhaps fitting, therefore, that the Mosaic plan should serve as a point of departure in the discussion of my topic, "The Evolution of Organization." In the development of this theme, it will be my endeavor, first, to portray for you certain examples of organization which, at various high points in the world's history, by providing the framework for achieving the accepted moral, political and commercial objectives of the times, have been of immense consequence to the welfare of humanity. I shall point out not only the strength of each plan but also the fundamental faults that led to the ultimate failure or decay of the enterprise.

Passing lightly over great epochs of history, the major portion of my material will, however, relate to modern times and, specifically, to present-day organization in business. I shall view organization both as an art and as a structure and shall stress, by inference if not by direct statement, those fundamental considerations and principles on which organization must rest if it is to be practically, as well as potentially, the means of achieving a predetermined end.

Obviously, there are two sources from which material such as I propose to use may be drawn. The first consists of the stored and

sifted facts of the past, an inexhaustible treasure house which continues to yield golden returns to the scientific investigator. The second source, springing from the current scene, is composed of a thousand and one cross-currents, trends, patterns, schools of thought, trials and errors, successes and failures. While we are perhaps too close to this fund of experience to view it in clear perspective, it is our task to analyze and evaluate it and so to extend, even though in slight degree, the boundaries of our knowledge.

In considering modern business organization, it appeals to me as advisable, from a conservative and practical point of view, to adopt the case method and to limit myself to the presentation and discussion of a number of instances drawn from my own experience as a management engineer. In this manner, I shall be in a position to speak with intimate knowledge of the facts involved, leaving it to my audience to draw such deductions and to construct such analogies as the conditions seem to warrant.

Development of Organization in Modern Times

We now come to the development of organization in modern times. The advent of the Industrial Revolution was signalized by the creation of labor saving machinery and, in particular, by James Watt's epoch-making invention of the steam engine, which was first successfully used to drive machinery in 1785. The application of power to factory work and the numerous mechanical developments in various fields of effort, resulted in changing the entire industrial aspect.

Up to the time of the Industrial Revolution, workers were largely skilled artisans whose manufacturing activities were facilitated by the use of small tools and crude mechanical devices. These artisans owned their own tools as a symbol of proficiency in their respective crafts. The tremendous change which took place with the introduction of power machinery resulted in the substitution of semi-skilled labor, the transfer of the ownership of mechanical equipment to the

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(EDITOR'S NOTE: Because of space limitations, the editors have found themselves compelled, with the consent of the author, to eliminate from Mr. Hopf's highly interesting address, several sections dealing with the historic development of his subject.

It is felt that the case studies presented by Mr. Hopf will be of particular interest to accountants; hence they are reproduced as presented at the Detroit conference, with the addition of certain cases which were originally included but not featured during the course of presentation of the paper.)

capitalistic entrepreneur and, by this means, the appearance upon the scene of the modern employer, upon whom labor was in a sense dependent for a livelihood.

It is difficult today to comprehend the tremendous upheaval in work habits, social relationships and domestic practices which this change effected. From then on, the possession of capital and executive ability, joined to an enterprising spirit, qualified the individual as a member of the employer class. The concentration of industrial activities in factories, which followed rapidly, completely revised the former process of taking the work to the workers, as was done in the cottage and early factory periods, and compelled the workers to go where the work was being performed, amid these strange, mechanized conditions.

The early plans of organization which the factory system instituted were somewhat similar to those in vogue during the handicraft period. See Chart 1.

EXAMPLE OF EARLY
FACTORY PERIOD ORGANIZATION

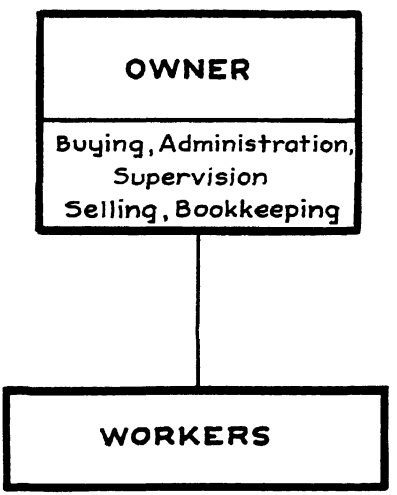


CHART 1

Example of Early Factory Period Organization

The owner of the business provided the work place and the tools, supervised the workers, kept in touch with the customers, ordered

raw materials, executed sales, and frequently carried his accounts in his head.

The intimate, personal relationships which were so happy a characteristic of the guilds were carried over into the early factory period. With the increasing success of this new type of enterprise, the owner, who had usually started in a very humble way, began to accumulate capital and to expand his industrial operations.

Soon the number of workers multiplied and another great discovery was made, namely, the value of the subdivision of labor. Instead of giving his time and energy to the entire manufacturing process from inception to completion, the worker was trained to concentrate upon one single phase of operation and, in this manner, was enabled, through constant repetition, to acquire great dexterity. It will be recalled that Adam Smith, in his *Wealth of Nations,* cited the example of manufacturing pins which has come down to us as a classic illustration of subdivision of labor. Over a half century later (in 1832), Babbage wrote his famous treatise, *On the Economy of Machinery and Manufactures,* in which he established for the first time certain principles which must be regarded as the forerunners of what we now understand as scientific management.

Example of Later Factory Period Organization

Illustrating the manner in which expanding manufacturing operations brought about changes in organization and personal relationships, Chart 2 showing an example of later factory period organization is now presented. More and more the owner found himself compelled to withdraw from actual operation and to devote himself to administration and supervision. He therefore appointed in his stead a foreman, who was placed in charge of the factory and given immediate control over the workers. It also became necessary for him to engage a buyer, who devoted himself to the purchase of raw materials, and a salesman, who sold the finished product to the consumer.

No longer was the owner able to keep his accounts in his head or on old scraps of paper. He was therefore obliged to engage a bookkeeper to maintain the accounts, mostly by the single entry method. Wherever necessary, clerks were assigned to perform the comparatively simple clerical tasks of the day. Here, then, we see for the first time the germ of what is known to us as the office. Actually, the chart discussed brings to expression a skeleton form of func-

tional organization, with manufacturing, finance, purchasing, and sales, all clearly distinguished.

It would be quite beyond the scope of my theme to undertake a detailed description of the development of organization in modern times. It is, however, essential to point out that, whereas in the early part of the period under consideration individual proprietorships were the rule, this type of ownership was soon supplemented by partnership arrangements, and both gave way in due course to that distinctively modern type of business enterprise known as the corporation.

EXAMPLE OF
LATER FACTORY PERIOD ORGANIZATION

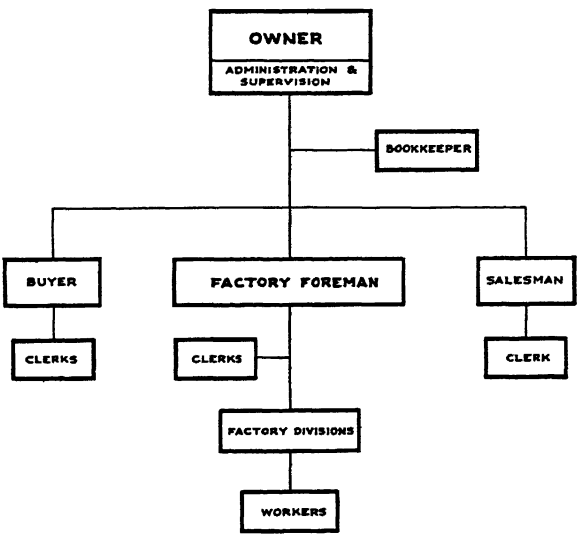


CHART 2

Wherever business activities are undertaken on an increasing scale, the corporation is practically the universal form of organization employed. In fact, it may be accepted as a postulate that, in the absence of the corporate form of organization, much of what at least until recently has been regarded as *big business,* simply could not have happened. The wide distribution of shares of ownership made possible by the sale of corporate stock had a tremendous influence upon the size to which businesses might grow, and hence upon the separation of ownership from management. The close relationships

existing in earlier days between the owner and the workers were disrupted, and a gap was gradually created between the salaried executives, who were the former's representatives, and the rank and file of employees. This gap exists today in pronounced measure, and apparently all the devices of modern scientific organization and management have thus far failed to bridge it.

With the beginning of the twentieth century, organization structure had assumed most complex aspects. Management, instead of learning from the history of the past, apparently was not even remotely aware that prototypes of organization admirably adaptable to modern application, had existed since ancient times. Perhaps to expect the modern business man to profit from the experience of the past is to strain too much at human nature, which is characteristically prone to prefer the trial and error method.

The natural course of evolution was away from one-man management of autocratic character, and led in the direction of functionalization and specialization. No longer was it possible for individual executives to bring within the range of their knowledge all of the facts bearing upon the sum total of the situations with which they were confronted. Departmentalization, regardless of how it was ex-

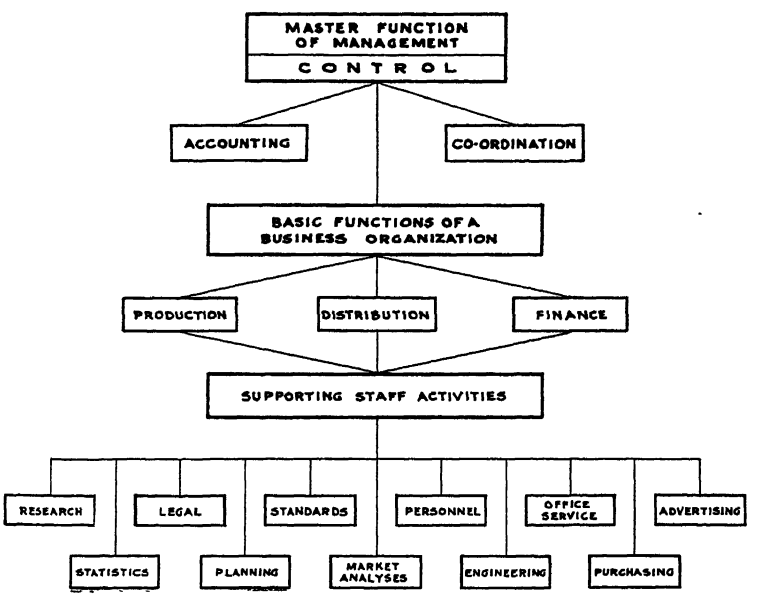


CHART 3

tended, failed to solve the organization problem and eventuated only in clashes of authority, blurring of functions, lack of coordination, ineffective procedure and executive overloads.

Speaking in broad, general terms, there are three basic functions in business: production, distribution and finance. See Chart 3.

Basic Functions of Business

Actually what goes on in every human enterprise conducted for profit is the manufacture of goods or services, the distribution of the product, and the provision of the necessary capital. In the more complex forms of organization, the successful performance of these three basic functions requires that they be supported by a host of supplementary activities, mainly of staff character. Among these may be mentioned research, planning, personnel, engineering, law, statistics, etc. The master function of management is to exercise control over the sound operation and development of the basic functions and their associated staff specialties. The two chief instruments of control are accounting and coordination. This statement brings into correct focus the importance which accounting has assumed in the modern business organization.

The art of organization, as applied to an individual business, involves sound integration of all the functions and activities and their adjustment to the factors of size and tempo of development. Moreover, it is of the first order of importance to maintain conditions of flexibility so that the organization framework will adjust itself readily to changing conditions. Functionalization, while the order of the day, obviously entails limitations which soon make themselves apparent through increasing difficulty in solving the problem of coordination. It is absolutely essential to good organization development that, from time to time, the validity of the elements composing the structure be reviewed, and that they be modified or rearranged to meet changing needs and to prevent the possibility of diminishing returns.

In the development of organization we are concerned, from the practical point of view, with the projection of a series of successive stages which, taken together, constitute a sound working program. It is necessary, first of all, to define and adopt a valid objective to the accomplishment of which the entire material and human resources of the organization should be dedicated. This objective, and its concomitant administrative policies, should be made known to all en-

gaged in the enterprise. It then becomes essential to create the machinery necessary to the carrying out of the policies established. Hand in hand with this, suitable operating plans and procedures must be introduced and maintained. Finally, the organization must be propelled toward its objective by a staff of carefully selected and capable executives, whose responsibility it is to make successful use of the organization structure erected. Effective control through a centralized management constitutes the final stage of development.

This brief excursion into the field of principles, a subject so well treated by the previous speaker, has been undertaken in order to pave the way for the presentation of a series of organization studies, drawn from actual cases in present-day business, to which the remainder of this address will be devoted. Before leaving this section, it is appropriate to conclude the historic phase of my subject with the statement that for the past few decades, business and industry have benefited signally by the application of the principles of scientific management as first made known, in 1910, by Frederick W. Taylor. To no single mind more than to his, should the world pay tribute for laying the foundations of modern management. To Taylor's genius we owe, in unified form, the concepts of research, standards, control, and cooperation, which have done so much to influence scientific thought and accomplishment in the fields of industry and business.

We are ready now to consider specific cases of present-day organization, and to discover how the problems encountered in various fields of industry have been solved by individual business institutions. Before entering upon a discussion of these instances, which have been selected from my experience as a management engineer so as to give you a diversified outlook, let me transmit to you a point of view concerning organization which it is desirable that you bear in mind in considering the material which I am about to present. This viewpoint is admirably expressed in the words of an English actuary, written many years ago in the preface to a book on life insurance mathematics:

"A scheme of organization necessarily involves a clear conception of the end to be attained and the thoughtful and methodical devising of the means by which attainment can be adequately, promptly and easily secured."

ORGANIZATION STUDIES IN THE MERCHANDISING FIELD

Case 1: A Retail Merchandising Company

We are here dealing with a partnership consisting of three men who had never attempted to allocate responsibilities and duties according to any scientific plan. The partnership had for a long time prospered, but competition was beginning to make serious inroads upon sales volume, and frequent style changes finally caused loss of ground and led to a condition of profitless operation.

Our investigation of this case disclosed the following organization faults:

1. Lack of planned organization structure;
2. Failure to establish clear-cut lines of authority throughout, and to hold specific individuals responsible for faults;
3. Failure to adhere to those lines of authority which had been established;
4. Lack of leadership.

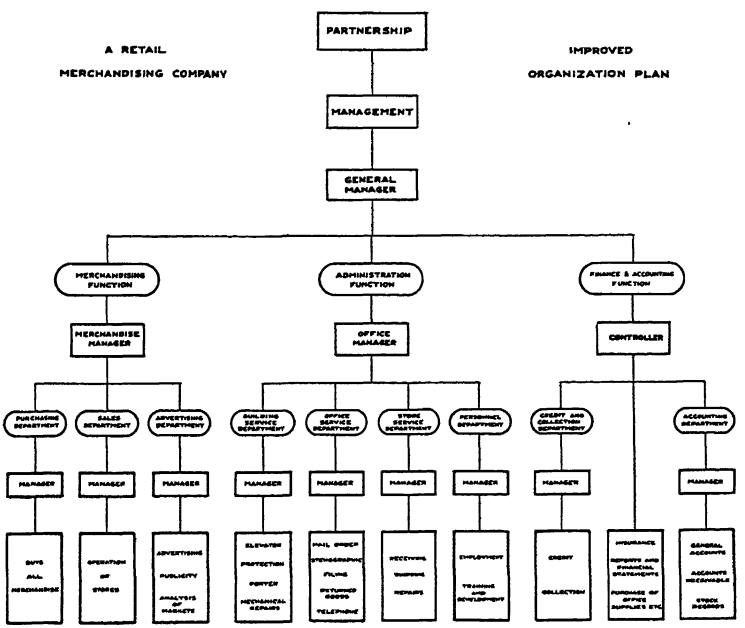


CHART 4

The adverse economic trends which had begun to make themselves apparent, aggravated by the basic organization faults, led to constant bickering and misunderstandings among the partners. In a misguided attempt to accomplish improved results, each of the principals began to grow more active and to make decisions relating to all classes of work. Lines of executive control were practically completely ignored; employees were permitted, even encouraged, to go over the heads of their immediate supervisors; conflicting orders and instructions were issued; everyone claimed authority, and no one could be held to accountability.

The first step taken to correct the conditions described was to fix final responsibility by having one of the three partners chosen as *General Manager,* with responsibility to coordinate the activities of the business and to direct those appointed as operating heads. See Chart 4. The second step was to impress on all others, particularly the remaining partners, the necessity of giving the new General Manager a free rein and full support.

It was also imperative to educate the entire organization to the necessity of adhering strictly, and at all times, to lines of authority. This was a slow process, but it paid golden dividends in improved morale and smoothness of operation. Functional divisions of the work were established, as indicated by the chart, and the duties and responsibilities of each person in authority were clearly defined and allocated.

By the establishment of positive limits of authority and definition of duties, confusion was eliminated and accountability for results was fixed. Moreover, by concentrating the efforts of one partner on the all-important problem of merchandising, a profit was produced the very first year.

Incidentally, reference to Chart 4 will indicate that the activities normally assigned to a controller have been divided between two executives. The reasons for this were, first, the personalities involved, and second, the fact that because of the very large number of customers' accounts maintained, accounting constituted an active phase of merchandising. This situation placed such unusual operating emphasis on the work of the accounting department as to make it necessary to relieve that department of all service activities, and to place the latter under an office manager.

Case 2: A Chain Store Company

The next illustration is that of a large chain store organization which operates between 400 and 500 stores throughout the United States.

Chart 5 indicates that before the company was reorganized, the head of each of the main departments reported to the president. The latter was assisted by a so-called executive committee. In reality, this committee should have been called an advisory committee for,

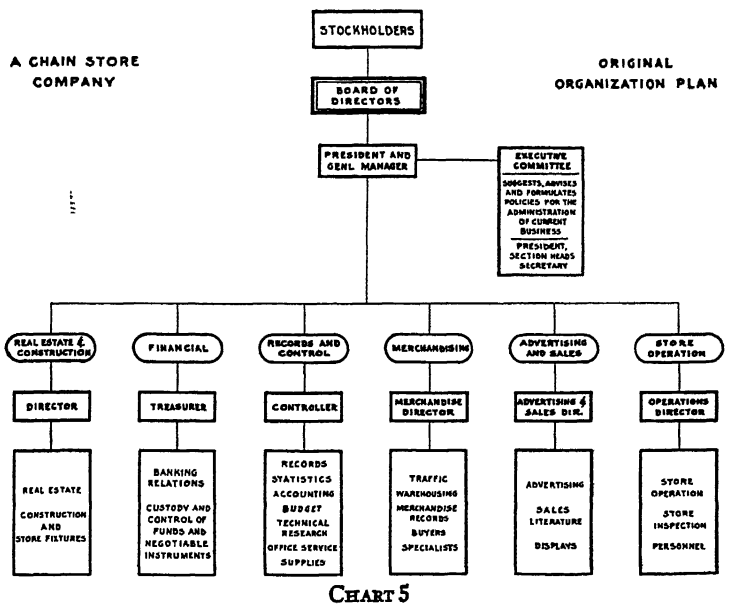


CHART 5

as indicated by its duties, it had no executive functions. The facilitating services performed for the individual stores, as well as direct supervision over store operations, were centralized at headquarters. Thus, direct action was impeded, the solution of pressing local problems was delayed, and individual treatment of store requirements was rendered difficult, if not impossible.

This case, therefore, illustrates the common fault of excessive centralization of executive supervision, which not alone prevented the accomplishment of effective operating results, but also made it impossible to develop adequate manpower.

Chart 6 indicates how the president was relieved of the necessity

of direct supervision over the business by the installation, immediately subordinate to him, of two senior executives, one in charge of administration and the other in charge of operation. By this plan, it became possible to inaugurate an adequate system of control, and the position of vice president and controller was strengthened by making that official a member of the executive committee.

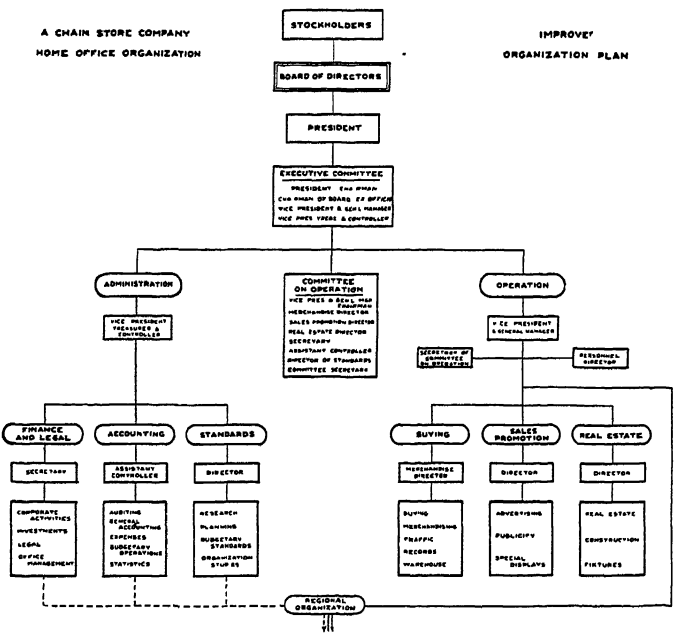


CHART 6

The function of the executive committee was restricted so that there would be brought to it only matters of major policy and such other problems of policy as lay outside the normal sphere of activity of individual executives or of other committees.

The function of the committee on operation was to effect a well-balanced and harmonious blending of the viewpoints and experience of the officers in charge of the several functions comprising administration and operation. This committee considered all operating questions whose nature and importance were such as to render individual action and decision inadvisable. Upon the committee on operation fell the major part of the burden for successful planning of

the operating phases of the business in a broad, general way, and for elevation of results to a more profitable level.

Whereas the preceding chart described the home office or central organization, Chart 7 depicts the operating phase of this chain enterprise. In order that store operations might be most effectively carried on, a regional plan was introduced, with four main divisions, according to geographic lines.

Within each division an appropriate number of districts, embracing 25 stores each, was established. This plan of unit organization provided a practical means of supervision which assured the direct action essential to satisfactory operation.

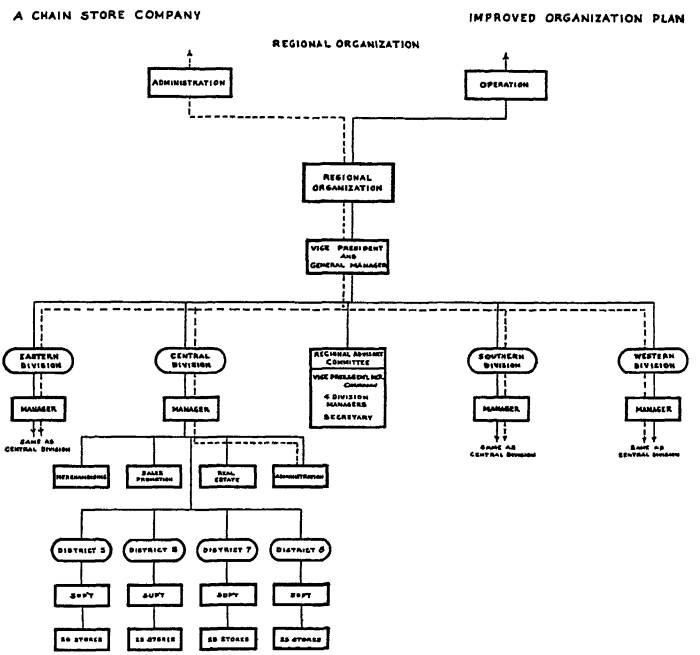


CHART 7

It is interesting to note the decentralization of many of the facilitating activities which had formerly been provided solely at headquarters. The creation of an advisory staff for each division manager made it possible to study problems relating to buying, sales organization, real estate and administration within each division. The members of the advisory staffs of the division managers collaborated

closely with the corresponding departments at the home office and also with the district superintendents and store managers. In this way a practical means was provided for coordinating conditions in the individual stores with the general policies of the company.

ORGANIZATION STUDIES IN THE MANUFACTURING FIELD

Case 3: A Drug Company

This is a small drug company which was engaged in manufacturing a line of proprietary goods, in doing a jobbing business, and in operating three retail drug stores owned by it.

The builder of the business had been a keen, strong, hard-headed individual, who controlled and supervised all its activities. When he died suddenly, control of the enterprise fell to his widow, who had never been in business. She was elected president of the com-

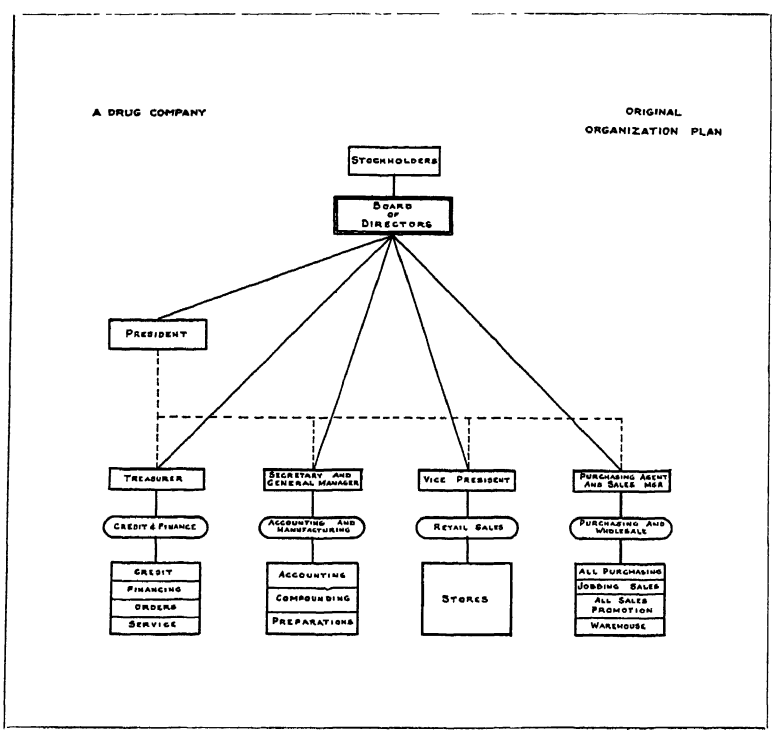


CHART 8

pany, and endeavored to run it with the assistance of a friend who knew nothing about the business. Further to complicate the situation, the supervisory staff had grown up in the organization and had learned to depend upon the owner for all instructions and guidance in carrying on the operations.

As the margin between cost and selling price was gradually disappearing, we were asked by the president to discover where the profits were going. A survey disclosed the following conditions, as illustrated in Chart 8. The official organization of the company consisted of a board of directors, a president, a vice president, a treasurer and a secretary-general manager. The board of directors was formed by the executives mentioned, plus the purchasing agent, who acted also as sales manager.

The duties, responsibilities and authorities of the various officials had never been clearly set forth. Duplication and confusion of authority with respect to certain phases of the work were apparent, while with regard to other important activities there was an almost total lack of direct supervision. The president occupied a more or less honorary position, and her participation in the management was presumably limited to attendance at meetings of the board of directors. Nevertheless, it was common practice for each member of the board to seek out the president between meetings and to influence her to make independent decisions which, as often as not, were contrary to those arrived at during board meetings.

The secretary-general manager, who, under the circumstances, was supposedly directing the affairs of the company, was without definite or complete authority to make final decisions or to take such action as was necessary to conduct the business along sound and successful lines. On the other hand, many matters of importance which should have been decided by him, were acted upon independently by other officers or department heads.

To summarize, inadequate leadership, lack of definition of executive duties, responsibilities and authorities, and incorrect functional organization, were a few of the faults found in this particular case.

In planning the new organization, as shown on Chart 9, the duties of each executive and of all the members of the supervisory staff were clearly described and distinguished. Since the volume of business was not large enough to warrant exclusive devotion of the time

within the company. Consequently, margins of profit began to decrease as competition grew more keen.

At this point we were called in by the board of directors to analyze the situation and make recommendations which would lead to improvement. Our survey indicated at once the utter absence of elements of sound and effective organization. See Chart 10. Activities were grouped around individuals without regard for special training, skill or technique required to obtain results. Moreover, the groupings

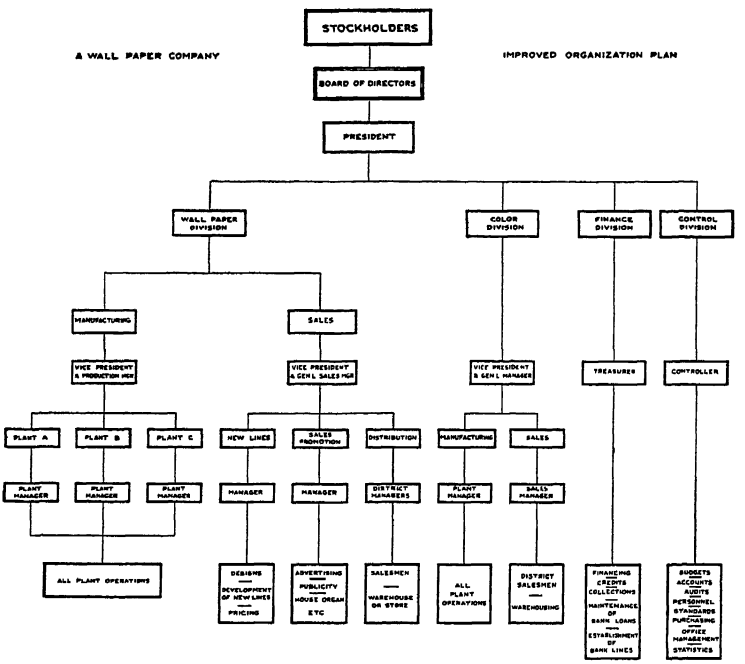


CHART 11

were made with little thought for natural relationship of tasks according to function. Lines of authority, when evident at all, were confused and blurred. Obviously, the resulting organization was not the fruit of intelligent planning or forethought, but rather the product of decisions reached solely on grounds of expediency.

To illustrate the illogical assignment of the duties and responsibilities, the treasurer, in addition to being in charge of credits and collections for the wall-paper division, was supposed to exercise con-

trol over the auditor. In point of fact, however, this control was vague and indefinite, if not non-existent. As a result, the auditor assumed authorities which probably exceeded those originally assigned to him. Moreover, the auditor reported directly to the president on many phases of his work.

Note, also, that the sales manager, in addition to being burdened with duties entirely foreign to those ordinarily associated with that position, had the humanly impossible task of operating four wallpaper plants located at widely separated points. The heaping upon one man of duties requiring such totally different training, skill and capacity, had the only result which could be expected, namely, that each of the activities was sorely neglected.

The character of the duties delegated to certain of the other executives points clearly to the difficulty experienced in digesting the personnel taken over at the time of purchase of the additional plants. Apparently it had been thought advisable to save the pride of those executives who had formerly presided over the companies which were absorbed, by giving them miscellaneous duties to perform and making them responsible directly to the president.

Chart 11 shows the revised plan of organization. You will notice that the new structure divides the operations into two natural parts, in line with the types of business carried on. In each of these separate operating divisions, all the usual functions are provided for, with the exception of finance; control over both is exercised by the president, through the medium of a control division, headed by a controller, and all financing is handled through the finance division.

Case 5: A Manufacturer in Fine Arts

There are times in the practice of a management engineer when the revision of organization structures entails the performance of very disagreeable tasks. I remember this case, in particular, because regard for the obligations incumbent upon me as a professional adviser compelled me to go before the board of directors and earnestly recommend the simultaneous retirement from active participation in management, of the chairman of the board, the president and the vice president, all men of the highest ideals who had devoted their lives to the upbuilding of the company. That this step was inevitable may best be demonstrated by quoting verbatim two paragraphs which are taken from our report:

"With respect to the present situation, we are regretfully compelled to record the view that there are deep-seated differences of opinion and widely divergent aspirations on the part of the principal owners and executives of your organization, and that these have persisted for so long a period of time and have permeated the organization to such an extent as to bring about an irreconcilable condition of affairs.

"Selfish motives, ambition, and the desire for power and personal aggrandizement have been contributing factors of first importance. Faulty organization and procedure, absence of financial and non-financial incentives to junior executives, imperfect understanding and appreciation by principals of the relative importance of the various functions of the business, too close attention to administrative detail, failure to distinguish between private ownership and corporate responsibility, are factors second only in importance to those previously stated. Disregard of the interests of the institution as a whole, nepotism, lack of initiative, improper welding of organization units, faulty selection of personnel, in-

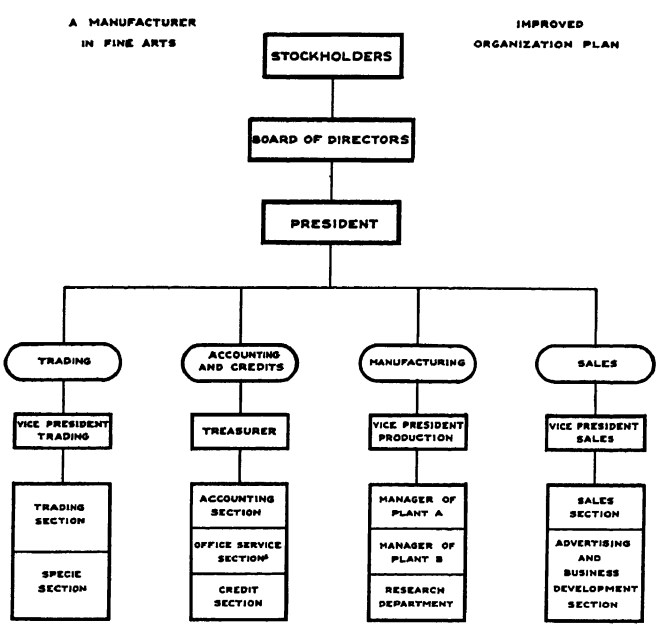


CHART 12

equitable evaluation of services and the lack of purposeful leadership, should also be mentioned in order to round out the picture."

It is gratifying to report that our recommendations, drastic as they were, were courageously accepted. The new organization, as disclosed by Chart 12, conforms to a purely functional type suitable to a small manufacturing company. Authorities are delegated in a manner commensurate with responsibilities, departments are sharply demarcated, and ultimate control is properly centralized. To supply the leadership and enlist the cooperation needed to translate this plan into action, appointments were made to the principal positions from among the junior executives of the company, and at once the business was launched upon an increasingly successful career.

Case 6: A Nation-Wide Food Company

This case is that of a prominent and progressive nation-wide food manufacturing company, having a series of twenty production units widely scattered over the United States, and an equally extensive sales organization consisting of approximately 150 branch houses. Some of the plants had been built by the company to take care of expanding sales; others had been purchased as going companies in order to round out the national picture. Although the company, which is a leader in its field, was being operated quite successfully and was accustomed to approach its many diversified problems in intelligent and constructive manner, our survey brought to attention a number of faults in the plan of organization. Among these may be instanced:

1. Over-centralization of executive supervision in the hands of the president.
2. Lack of an adequate plan for coordinating the activities of the several parts of the field organization.
3. Under-organization of the home office.
4. Lack of clear-cut division of responsibilities among the departments.
5. Lack of preciseness in reporting relationships.
6. Lack of uniformity in organization of field units.

The improved plan of organization as shown in Chart 13, established three regional divisions. In charge of each was placed a regional vice president, responsible for both production and distribu-

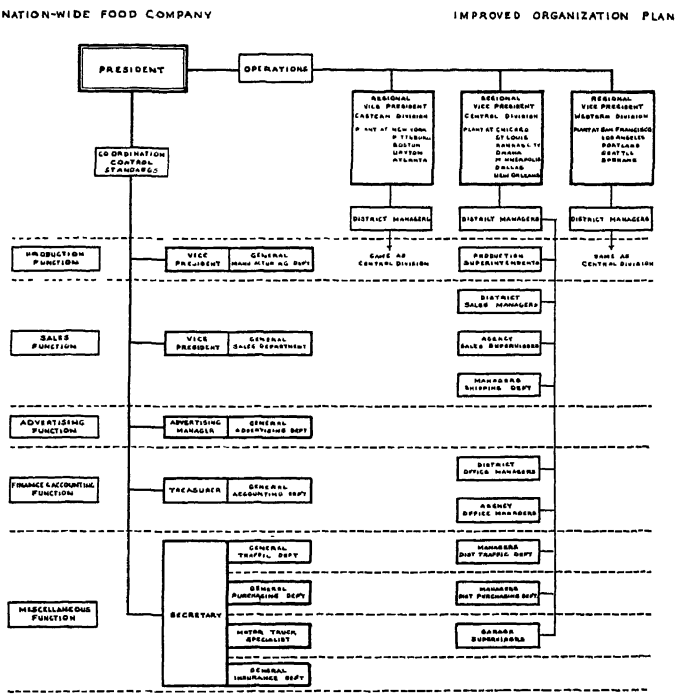


CHART 13

tion in his region. This plan provided the local authority necessary to expedite direct action, an essential element in the case of a company handling a perishable food product.

The relationships between the field organizations and the home office are clearly portrayed on the chart. You will notice that there are two distinct ways in which the president now directs the operations of the organization:

1. By technical control through the home office staff;
2. By executive control through the regional vice presidents.

Thus, the president is relieved of all detailed duties and of direct supervision over any unit.

The chart also brings to attention the line of demarcation between the staff functions of the home office and the executive functions of the field.

In this company the details of most of the general accounts were maintained in the district offices. The books at the home office were

limited to summaries of the district office accounts, plus certain proprietorship and reserve accounts. One interesting question was whether to maintain the detailed records covering the customers' credit accounts at the district offices, or completely to decentralize them at the branch offices. Theoretically, there are many arguments on both sides of this question; from a practical point of view the answer must depend upon individual operating conditions. In this case, the decision reached was to place the customers' account records at the branch offices. This was done in order to facilitate passing of credits, making collections and arriving at satisfactory adjustments.

As cost accountants you gentlemen will be interested in one problem which was solved by our study of this organization. We found that the cost accounting department was performing only a portion of the function of cost finding and preparation of records incident thereto, and that much of the work which is usually performed by such a department was being done by the general books department. The results were not satisfactory, because it was impossible to complete the figures showing the details of cost of production until so long after the expiration of the period that the information had lost much of its value as a basis for corrective measures. By reorganizing this work and placing all phases of cost finding under the cost accounting department, it was possible to advance the completion of detailed reports covering cost of production by over two weeks, thereby greatly enhancing the value of the figures as a subject for discussion at the foremen's monthly meetings and as a basis for corrective supervisory action.

ORGANIZATION STUDIES IN THE FINANCIAL FIELD

Case 7: A Trust Company

This trust company is located at Honolulu, Hawaii. Due to the Territorial law, such a company cannot engage in banking activities. Up to the time of our survey, no steps had been taken to distribute executive responsibility so as to make it possible for each of the officers of the company to assume his proportionate share of the burden of management. With increased size of the staff and the addition of new services and departments, organization problems had arisen which demanded re-allocation of duties and distinct declaration of the scope and authority of every position.

The junior officers, who had been placed in responsible charge of various operating units, in the absence of definite rules and regulations, had been required to look to the entire group of senior officers for instruction. In the meantime, the senior officers had become more and more engrossed in the development of the institution and, in particular, in the task of cementing relationships with the new and prospective clientele of the company. The senior officers found themselves taxed, on the one hand, with consideration of special problems and projects and, on the other, with the necessity of keeping in touch with the work of the various departments which had gradually been allowed to shift for themselves.

The president of the company, a man of the broadest vision and clearest judgment, recognized the necessities of the situation and determined that he would place his company on a more effective operating basis. Chart 14 shows the result. With certain adjustments of personnel, it was possible to distribute the work in a logical manner and to free the senior executives for dealing with the public and for the consideration of major policies and constructive projects.

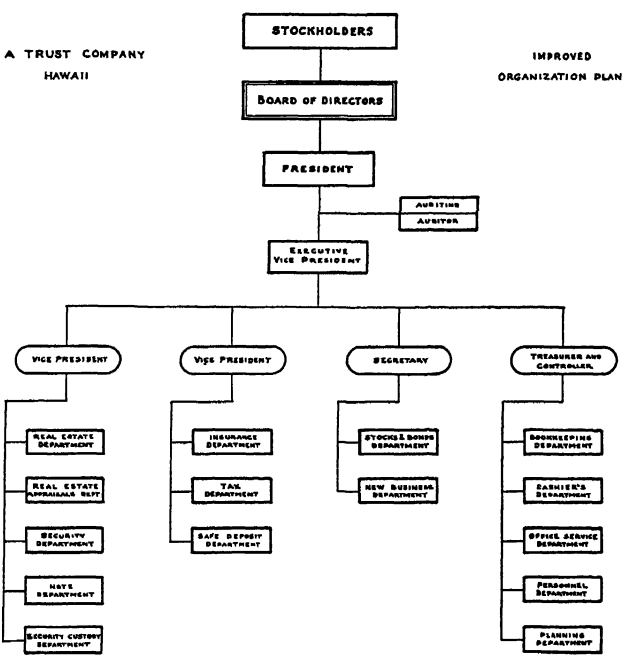


CHART 14

Analysis of the qualifications and personal characteristics of each man who seemed eligible for any of the important positions, made it possible to utilize each one's abilities to the fullest extent, to form a smooth functioning organization with the executive overload eliminated, to accelerate the tempo of operation, and to release the time of the principal officers for planning and contact work.

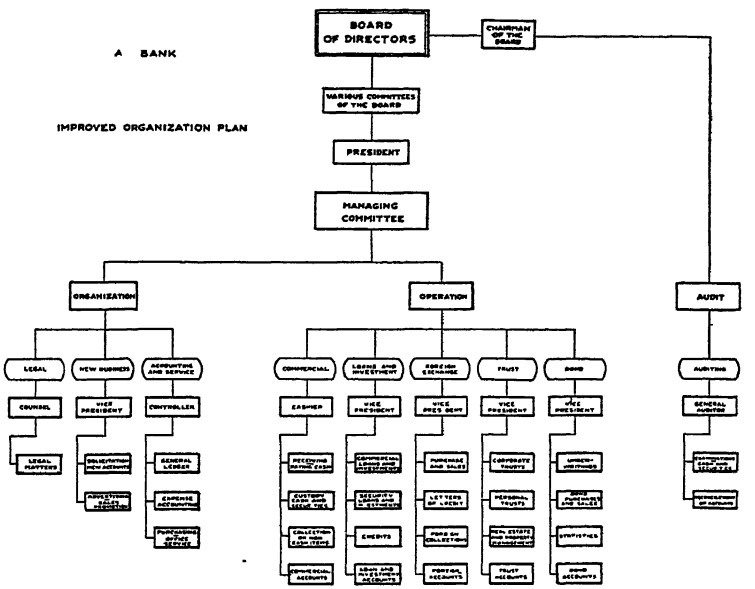


CHART 15

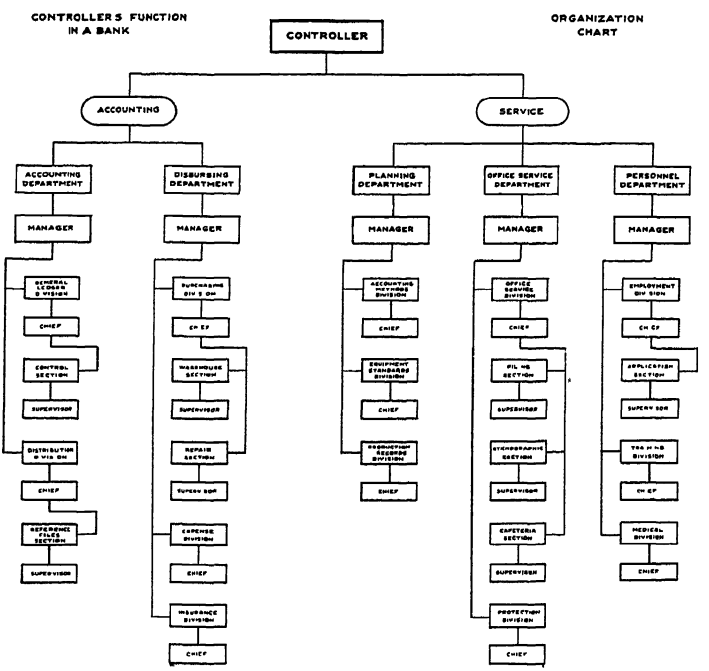
Case 8: A Bank

In the bank which I am going to describe for you, there were sixty-four separate departments of varying degrees of importance, all reporting to the cashier. This excessive decentralization was further aggravated by frequent confusion concerning departmental spheres of activity. In some respects there was marked overlapping of authority, and in others, by contrast, there seemed to be no executive supervision whatever. Because of executive overload, it was physically impossible for the cashier to coordinate the activities of the numerous departments. It is not to be wondered at that conflicting instructions were issued, that jealousies and antagonisms were evident where cooperation should have existed, and that there was an

absence of that smoothness of operation which is a concomitant of sound organization.

The improved plan of organization, as shown by Chart 15, is based on recognition of the functions into which the work of the bank is logically divided. There are three main divisions, to each of which certain major functions have been assigned; in connection with each function, appropriate departments have been established to carry on the routine tasks. Each department has been subdivided into one or more divisions, and the divisions, in turn, have been separated into sections, in line with the work to be performed.

Authority and responsibility have in all cases been definitely assigned through written instructions which leave no room for misunderstanding or evasion. The plan provided can be easily expanded or contracted to reflect increase or decrease in volume of work or changes in requirements. A further refinement is the establishment of definite grades of employees, uniform throughout the organization.


CONTROLLER'S FUNCTION IN A BANK
ORGANIZATION CHART
CONTROLLER
ACCOUNTING
SERVICE
ACCOUNTING DEPARTMENT
DISBURSING DEPARTMENT
PLANNING DEPARTMENT
OFFICE SERVICE DEPARTMENT
PERSONNEL DEPARTMENT
MANAGER
MANAGER
MANAGER
MANAGER
MANAGER
CHIEF
CHIEF
CHIEF
CHIEF
SUPERVISOR
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Administrative control is vested in three grades of officers, general, senior and junior. Departments are headed by junior officers, known as *Managers.* Employees in charge of divisions are known as *Chiefs,* and those at the head of sections, as *Supervisors.* Such uniformity of titles is of distinct advantage as a means of indicating the relative importance of each position.

Perhaps the most significant feature of this chart is the manner in which accounting is decentralized. Each operating department having direct dealing with the public maintains its own accounting records. The accounting department maintains only those records which may be described as internal accounts, such as the general ledger, expense account distribution, departmental control accounts, etc. Decentralization of accounting in this manner was introduced to meet the need for dispatch in handling the daily routine of each department.

Chart 16 shows the detailed organization of the *Controller of Accounts.* It shows the logical and simple method by which the function of accounting is divided but, because of limitations of space, it has not been possible to include all of the sections.

Case 9: A Brokerage House

This case is that of a partnership engaged in the business of executing orders for the purchase or sale of stocks, bonds and commodities. At the time of the survey there were eight partners: one was stationed on the floor of the New York Stock Exchange, two were located on the floor of the Cotton Exchange, three were responsible for various activities in the New York office, and the remaining two were in charge of two of the branch offices.

There was no single directing head of the organization. Conflicting duties and responsibilities caused much confusion among the partners and employees. Moreover, too much time was spent by the partners in discussion and deliberation. Operating problems which should have been disposed of immediately were allowed to hang fire. Often, contradictory instructions were issued to employees. Because decisions were reached in conference, no one partner regarded himself as responsible either for their execution or for the effect of their adoption.

Another outstanding characteristic of the partnership was lack of a viewpoint of business development. If the firm was to do more than maintain its past prestige and position in the financial district,

increased effort would have to be exerted in new business development to meet the competition of its more energetic neighbors.

To complicate matters, there was a decided looseness of control over branch office operation, and no one at the head office would acknowledge responsibility for successful operation of these units. Consequently, it was not unexpected to find that they were making very poor showings indeed.

To complete the picture, failure to maintain adequate operating statistics and cost records made it impossible to draw accurate conclusions concerning the results produced.

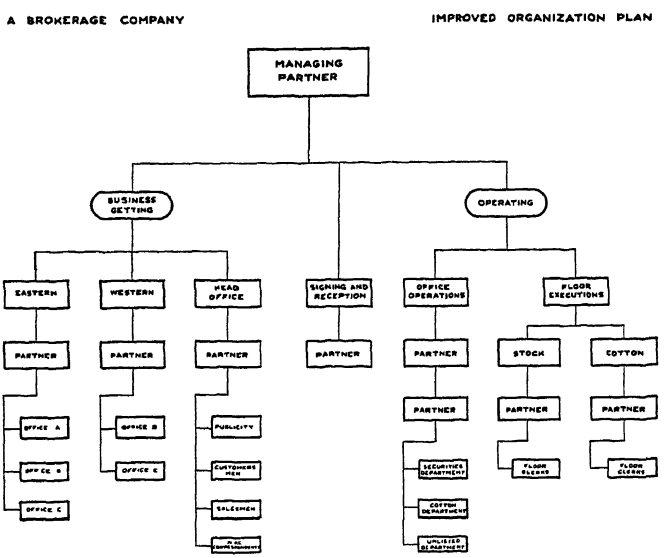

CHART 17

Chart 17 indicates the remedies which were supplied to this situation. One partner was appointed *Managing Partner* and was placed at the head of the organization, with the duties and responsibilities usually assigned to the president of a corporation. Specific functions, as indicated by the chart, were assigned to each of the other partners at the head office.

Since the promotional end of the business was scattered over a wide expanse of territory, it appeared best to organize this activity on a territorial basis. A partner was placed in direct charge of the operations of the various branches in each territory, and was clothed

with complete authority to decide all operating questions which arose. Control records were established at the head office so as to make it possible to hold each of these partners directly to account for the results produced in his territory.

The details of customers' accounts were maintained at the branch offices in the case of branches located at a distance from New York; otherwise, these accounts were kept at the home office. Convenience to customers and facilitation of service were the determining factors in deciding where the accounts should be kept.

ORGANIZATION STUDIES IN THE INSURANCE FIELD

Case 10: A Casualty Insurance Company

This company began in a small way and all phases of the business were initially under the direct supervision of one individual. During the first decade of operation, the rate of growth was slow. The president gradually surrounded himself with a group of men to whom he assigned routine activities, but all of whom had to report directly to him and to depend on him for decisions. During the second decade growth was greatly accelerated; nevertheless, the plan of organization remained practically as it had been in the infancy of the business.

As might be expected under such conditions, organization difficulties soon cropped up. For example, the management of the many field offices created a problem of balance between centralized control

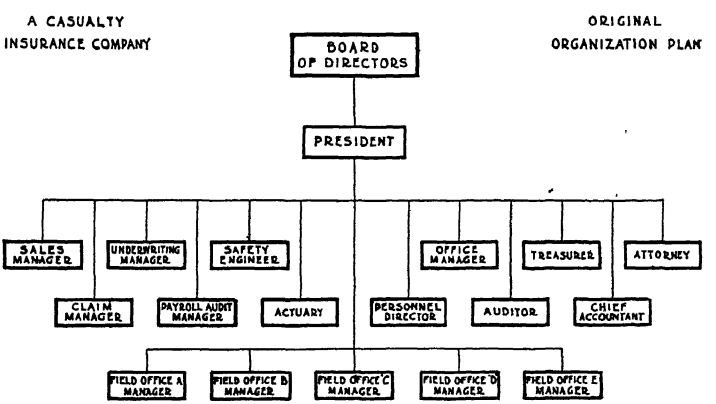

CHART 18

and local authority. Moreover, decentralization of the issuance of policies, which accompanied inauguration of the field office plan, necessitated the installation of a completely new system of records and reports.

Our study of the organization structure soon revealed the necessity of a change in the close relationship of the president to every phase of organization and procedure. As Chart 18 indicates, seventeen executives occupying various levels of responsibility and charged with a diversity of duties were reporting directly to the president. This condition not only militated against the exercise of effective supervision, but it constituted such a burden upon the time of the president that it interfered seriously with the requirements of long-range planning and formulation of new projects. Then, too, any plan under which all field office managers stood in a personal reporting relationship to the president was bound in the long run to fall of its own weight, particularly since a policy of expansion had been undertaken.

Chart 19 discloses the changes which were installed in order to overcome the defects of the former plan of organization. Important

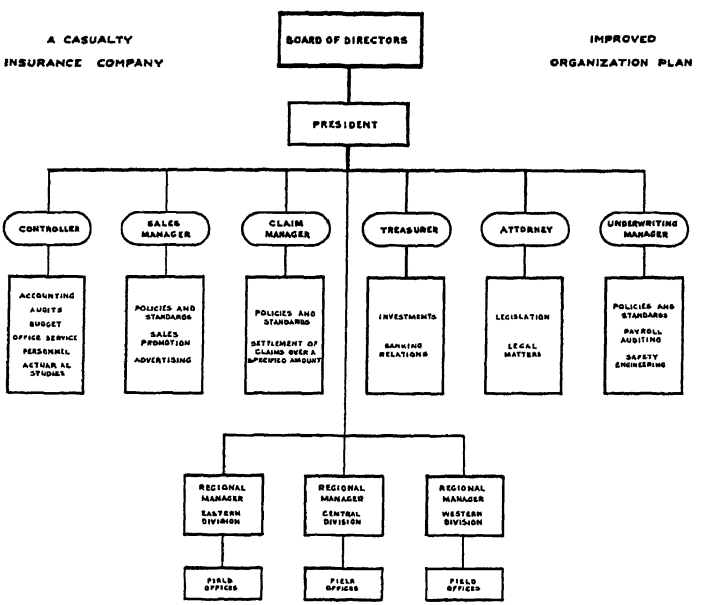

CHART 19

among these is the grouping of a number of the administrative departments of the home office under the supervision of a *Controller,* thus centralizing the responsibility for control and coordination of activities in one responsible executive. This change effectively relieved the president of many of his former duties in connection with the function of administration.

Another feature of the new plan is the method adopted for organizing the field activities to facilitate expansion. The United States was apportioned into three regional divisions, each with a regional manager reporting directly to the president. Within each region the regional manager has direct control of operation, development and coordination.

The changes described reduced the number of persons reporting directly to the president from seventeen to nine. Even the latter number exceeds the maximum that should be advocated under ordinary circumstances. However, in this particular instance the active and energetic nature of the president seems to justify his retention of close connection with all phases of the business for an indefinite period. If at some future date the incumbent of the office of president should not be endowed with similar qualities, it will undoubtedly be necessary to provide further delegation and grouping of responsibilities, and to limit the direct contacts of the president to two or three major executives.

CONCLUDING CONSIDERATIONS

It is a long road that we have traveled together, and a panorama of vast dimensions has unfolded itself to our view. Indeed, in the development of our theme we have brought within range of consideration many of the world's most significant movements in order that the evolution of organization might be fittingly portrayed.

I believe that what I have presented to you justifies the conclusion that the journey has been one of re-discovery rather than of discovery, for it must be patent that even the examples of organization drawn from the history of antiquity revealed the existence of principles and patterns upon which modern business has thus far been unable to improve. If I have attempted between the lines of this address to expound any thesis, it is that in spite of the sound background afforded by the past, modern business has plunged unheedingly into the tremendously costly process of acquiring anew

for its present-day purposes and objectives, what could have been appropriated and adapted with small effort from the genius and experience of preceding generations.

As a student of organization who confesses to a deep and abiding interest in the subject, I may perhaps be permitted to express the belief that the notable lack of continuity in organization development is attributable, at least in part, to the great and often abrupt changes of economic and social character which have occurred so frequently in the history of Western civilization.

Perhaps Oswald Spengler, the great German historian and philosopher who a few years ago published the shattering work entitled, "Untergang des Abendlandes" (Decline of the West), was right when he asserted that Western civilization is doomed to perish.

Perhaps the rugged individualism which characterized our immediate ancestors in the American scene and which did so much for the development of our country, is still an attribute of present-day business thought to an extent sufficient to furnish an explanation of the difficulty encountered in creating an appreciation of the values inherent in sound organization patterns. Perhaps this very individualism, which cares nothing for traditions and worships chiefly at the shrine of personal experience, may prove to be the chief stumbling block in the consummation of any sound plan of economic control, supported, as it must be, by the most finely conceived schemes of organization and human relationships which the mind of man is capable of devising.

Perhaps, finally, the dominant profit motive, inspired by crass materialism, will always supervene to frustrate the achievement of results through sound organization and will ultimately reveal the modern business executive as merely the servant, rather than the master, of the edifice which he has attempted to construct.

Who can give definitive and convincing answers to these surmises? Certainly not I, for if a quarter-century of devotion to a chosen field of professional interest and of exploration in constantly broadening areas of intellectual effort, has convinced me of any one truth, it is, as d'Alembert has put it so profoundly, that "science makes us, in the last analysis, merely derive our ignorance from its most remote source."

There are pitifully few examples of thoroughly good organization to be found anywhere in business today. Speak to the chief executive of a large corporation and ask him to define the optimum

size to which his organization should adhere, and you will be confronted with a blank stare. Request him to tell you whether or not his institution is likely to be successful in the long run in resisting a process of decay, and he will probably laugh you to scorn. But he will not know whereof he speaks, for he will not realize that institutions age and wither just as do individuals.

Challenge him to give you a list of the most common organization faults he has encountered, and he will grope for words in an endeavor to express a few feeble concepts, most of which will be variations of a single theme. Finally, ask him to state how he measures organization effectiveness, and instead of giving you a formula which will hold water, he will dwell upon the caliber of the few executives with whom he regularly comes in contact, and talk loosely about costs, volume of business, and the profits of yester-year.

Such an executive, and there are many in the land, has never thought of ascertaining whether his organization plan permits of placing the power of decision at the point where action originates. He puts scant valuation upon the necessity of promptly transforming detailed information into control information as it flows from the lower to the higher organization levels. He looks upon the organization structure as a rigid frame-work, and can only rarely be induced to change its pattern, even after it has become outworn. Last, he has not yet learned that the most elaborate and finely adjusted plan of organization conceived will disintegrate unless it tends not to throttle, but to release and to generate human energy.

Freedom of action, the right to plan and to initiate, the courage to blaze new trails, the vision and determination to conquer all obstacles—these are some of the by-products of good organization. Beyond lies the imperishable glory of the dreamer, for:

> "Only the dream is real. There is no plan
> Transcending even a rose's timid glory
> A cricket's summer song. The ways of man
> Are stupors of the flesh, and transitory.
> There is no truth but dreams; yet man must spend
> His gift of quiet days in storm and stress
> Unheeding that a single breath will end
> With one swift stroke the hoax of worldliness.
> Only the dream will last. Some distant day
> The wheels will falter, and the silent sun

Will see the last beam leveled to decay
And all man's futile clangor spent and done
Yet after brick and steel and stone are gone,
And flesh and blood are dust, the dream lives on."
(Anderson M. Scruggs)

CHAIRMAN CAMMAN: I think we all agree that Mr. Hopf has presented this subject in a most interesting way, tracing through thousands of years the development of the present-day type of commercial organization. His presentation of case problems was exceptionally good and I know all of you join me in thanking him for bringing to us some of the results of his broad experience.

Are there any questions anyone wishes to ask?

If not, we shall adjourn.

SESSION III

THE RESPONSIBILITY OF THE ACCOUNTING DEPARTMENT IN SALES ACTIVITIES

WEDNESDAY MORNING, JUNE 15, 1932

HOWARD C. GREER, *Director of Accounting,*
Institute of American Meat Packers, Chicago, Illinois.
Chairman

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J. Parker Margeson, Jr., is a graduate of Dartmouth College and of the Thayer School of Engineering. For some time he was Vice President of the Winchester-Simmons Hardware Company, St. Louis, Missouri, and later he became General Manager of Sulloway Hosiery Mills, Franklin, New Hampshire. He is now Vice President and General Manager of the Phoenix Hosiery Company, Milwaukee, Wisconsin.

Walter F. Vieh was graduated from St. Louis University in 1915 with the degree of Bachelor of Commercial Science. He engaged in public accounting practice with the firm of Price, Waterhouse and Company in St. Louis for several years prior to entering the Air Service of the United States Army. At the close of the World War he resumed public accounting practice with Price, Waterhouse and Company. Later he joined the staff of the public accounting firm of Touche, Niven & Company and was made manager of their Cleveland office. For some time he was controller and then treasurer of the India Tire & Rubber Company. Recently he joined the staff of James O. McKinsey & Company, Accountants and Engineers, in their Chicago office.

Harry A. Bullis was graduated from the University of Wisconsin where he majored in management engineering. At the close of the World War he spent four months studying in the London School of Economics and Political Science, University of London. He was employed by the Chase National Bank, New York City, immediately after graduation from the University of Wisconsin and he remained with that institution until 1917 when he enlisted in the U. S. army. He held the rank of captain when he was released from service at the end of the World War. In August, 1919, he entered the service of the Washburn Crosby Company, now a subsidiary operating company of General Mills, Inc. At the present time he is Vice President, Secretary, Controller, Director and Member of the Executive Committee of General Mills, Inc. He is a member of many social, learned and professional clubs, societies and fraternities, and is President of our Association for the year 1932-1933. He has made many addresses and written numerous articles on cost accounting, and won second prize in the Scovell Essay Prize Contest held by our Association during the year 1925-1926 on a paper entitled, "The Presentation of Costs for Executives."

THE RESPONSIBILITY OF THE ACCOUNTING DEPARTMENT IN SALES ACTIVITIES

PRESIDENT SANDERS: The scheme of the program is, I think, beginning to unfold itself to you. Yesterday morning we had some business executives, presidents, tell us what is going to be the trend of business management during the few years ahead of us. In the afternoon we had a very able presentation of the type of organization which will be necessary, illustrated by types of organization which have been effective and have been excellent in the past, working through to types which will be effective in the future.

This morning we are going to discuss the application of such organizations, the development of such organizations, in more detail, as applied more especially to the sales division of business.

We have with us, as chairman, Howard C. Greer, Director of Accounting of the Institute of American Meat Packers, and a Professor of Accounting at the University of Chicago. I don't quite understand why they do have so many professors around here. You can ask Mr. Greer that question, if you like, a little later on. But here we are.

I take pleasure, therefore, in handing the chair and the gavel to Professor Howard C. Greer, who will take care of you from now on.

CHAIRMAN GREER:

I believe it is clear that the purpose of our meetings today is to discuss the future of American industry as it affects the responsibilities of the accountant, and particularly the responsibilities of the accountant in respect to distribution and the financial functions of the business.

The term "function" is somewhat overworked, and its exact meaning may not always be plain to all of us. We all understand, however, that one of the important functions of business is to distribute goods. The importance of distribution has been made painfully clear to many of us by its absence during the last year or two.

I shall strive to follow the injunction laid down by the President yesterday, when he said we were not to talk about the present unpleasantness, but it is almost as difficult to expect a man to talk about American business without mentioning the depression as it would be to turn a group of people loose in a tornado and ask them not to talk about the weather. If they can catch their breath and can make themselves heard, they are sure to get around to that subject sooner or later. In the same way we can hardly talk about distribution without mentioning what the depression is teaching us about it.

Difficulties in distribution, excessive costs of distribution, doubtless helped to bring on our present sorry business situation. Our productive processes have been improved to a point where we think they are pretty good. We have worked on our costs of manufacture until we have them at what seem like very low levels. Distribution costs, however, have steadily and stubbornly increased. They have cancelled many of the savings brought about in the processes of production.

Up to two or three years ago, we simply complained that distribution was costly and expensive. Now we complain that it can't be accomplished. Sometimes we say that same thing in other terms, when we talk about over-production, as though we had too much of things. In general, there can't be any such thing as over-production. We may have unbalanced production; we undoubtedly do at times. We may have what we sometimes call under-consumption, which we have in the most aggravated form at the present time. But our difficulty is that we are not able to distribute with profit, with satisfaction, the goods which our industries, our mines, our forests, and our farms are in position to turn out.

Mr. Batt yesterday spoke about the problem of the farmer. He had been talking with some farmers. What he said reminded me of the remark of an official in one of the meat packing companies, which illustrates very strikingly the type of problem we face.

Twenty years ago lard was selling in tank car lots for approximately 10c a pound. Much of it was sold abroad. The transportation to England was about a half-cent a pound. Today lard is selling in Chicago in tank car lots at something less than 4c a pound. The transportation on it is a little over a cent a pound. While the value of the commodity has shrunk more than half, the cost of transporting it alone has more than doubled.

That sort of situation runs all through American business today.

It creates the most serious problem of the present depression—getting the cost of distributing our goods down into line with the cost of producing them and the ability of people to pay for them.

We are to have a discussion this morning of some aspects of this problem of distribution. We are to hear first from a man who is intimately acquainted with the problems of the sales manager, who will tell us what he believes the modern sales executive needs from the accounting department to help him conduct his operations effectively. Next we will hear from an accountant who is experienced in developing the material which sales departments need. Then we will hear, finally, from a man who has made an intensive and most effective study of how to present this accounting information to the executive of a business so that it will be most effective.

Our first speaker, whose name you have probably already read from the program, is J. P. Margeson, Jr., Vice President and General Manager of the Phoenix Hosiery Company. Mr. Margeson is a New Englander by birth, and was graduated from Dartmouth College. He has been connected with industry for a good many years. He brings to bear on this problem what I like to think of as a new attitude toward sales management.

Those of you whose business experience began at about the same time as mine will perhaps remember the type of production manager we had in those days—the man in the shop whose chief claims to distinction were a big, bellowing voice and strong right arm. He could outshout most of his men and knock down the rest of them, and he carried through his programs on about that basis.

That individual had his counterpart in the sales department in the man whose principal instruments of management were enthusiasm, pep, the big drive, going over the top, getting the men together and singing a song, and going out and selling more goods.

I don't mean to minimize the importance of enthusiasm or morale, but something more is needed today. We have to realize that in the past two years particularly our problems have not been simply problems of creating enthusiasm and pep; they have been problems of planning and of control, of scientific study of this vastly complicated and delicate mechanism we have built up.

Mr. Margeson is a manager who knows not only how to stir enthusiasm and maintain morale, but also how to analyze, plan and control. He is going to talk to you today about what he thinks the sales manager needs from the accounting department in dealing with his problems. I am glad to introduce Mr. Margeson.

THE PROBLEMS OF THE SALES MANAGER—HOW CAN THE CONTROLLER HELP IN THEIR SOLUTION?

J. PARKER MARGESON, JR.,

Vice President and General Manager,

Phoenix Hosiery Company, Milwaukee, Wisconsin.

I am going to have the opportunity to simply state some of the problems of the modern sales manager, and Mr. Vieh, who is associating with me on the program, is going to give you the answers.

I would like to have you get a mental picture of our organization. We have a plant that manufactures women's full-fashioned silk hosiery, men's hosiery of all types, and children's hosiery of all types. We are manufacturing a branded line. We are distributing direct to the retailer at a fixed retail price. I would like to have you have that background, so you can see the points of origin from which the thinking starts.

Some of the problems of the sales manager are as follows:

1. The Product—what shall we sell? Is our present type of hosiery the proper kind for the market? Should we make men's and children's as well as women's? Seamless as well as full fashioned? Fancies as well as staples?

If hosiery does not fill mill capacity or allow economical operation of the sales force, should we make allied products?

Is our styling and designing department giving merchandise that can command a profitable price? Do not expect the public to buy because you say you have quality—find out what the public wants and set the mill up to make it.

The controller can determine the relative possibilities of making profits under variations of the above policy questions. He can deter-

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(EDITOR'S NOTE: At the request of the speaker we are presenting here only a topical outline of the address which was given at our Convention. It is thought that this method presents in a better way the specific problems of the sales manager in the solution of which the controller can give such valuable aid.

In the next paper which follows this outline, the speaker discusses each of these problems in detail and tells how the specific information required can be provided.)

mine what items in existing lines are profitable and what non-profitable.

2. The type of distribution—should we sell direct to retailers only? To wholesalers? To consumer direct? Shall we have a nationally advertised line or sell non-branded or private brands? A combination of any of these? The controller can work up probable profit and loss statement assuming different types of distribution.

3. Selection of customers—What size accounts are profitable? What type store should we sell—department stores, chains, shoe stores, specialty shops. In what size city is each profitable? Where are we now selling? Where should our future emphasis be?

4. At what price should we sell? Study returns in volume resulting from price adjustments and show effects on margins of profit.

5. Is our personnel competent? Compare results and determine allowable percentages of expense and proper compensation plans for sales force.

6. What is the allowable expense for sales promotion and advertising? Is there a measuring stick that can be used to determine the relative effectiveness of radio, trade magazines, newspaper and direct promotion advertising? Should we have and promote special sales?

7. What sales plan by units of product should we present to the factory when the above policies are set?

(a) Long-range plans should be set for six months, three months in advance of the start of the six-month period.

(b) Emergency plans should be set monthly allowing fluctuating selling plans and quick adjustments of production schedules.

The controller should be in on the reviews of these plans in order that he may see and guide the probable effect on standard costs, financial plans and profit and loss statements. Slow moving items should be reviewed monthly and fast moving items twice a month.

(c) Plans for the disposal of irregulars and obsolete numbers.

8. Are we doing what we planned? Mr. Vieh is to present the records of the controls that are kept to guide and guard the performance of the sales department and to give the sales and general management the facts from which decisions are made.

Remember that no controller will succeed who approaches his sales manager in the spirit of criticism. Constructive help that will give the sales department the tools with which to do a better sales

job must be your objective. Show the sales manager that you are interested in making him successful.

CHAIRMAN GREER: Thank you, Mr. Margeson. Your talk has given us just what we needed in this program: first, a clear statement of the extraordinary difficulty and complexity of this distribution problem; second, a better knowledge of the opportunities that lie before the controller, and the great strides which he has yet to make if he is to measure up to those opportunities.

As Mr. Margeson has indicated, the next speaker on the program will be a man who has been in close touch with the accounting department in his company and knows how it has undertaken to meet the requirements of the sales department for accounting information. Mr. Margeson made plain not only what a difficult task is before all of us, but also that in his company, as in many companies, the sales department and the management generally are more anxious now than ever before to get whatever help the accounting department can give them.

It is very important, of course, that the man to whom you are going to talk be in the proper frame of mind to receive your message if it is going to be effective. We have that situation working for us at the present time. We must take advantage of it. We can't afford to let that opportunity pass.

The next speaker is going to tell you what has been done to assist the sales organization in the Phoenix Hosiery Company through the activities of the accounting department. Mr. Vieh, as you know, is a member of a very well-known firm of accountants and industrial engineers. He has been in public accounting work for a number of years, has been a member of the staff and a resident partner of well-known accounting firms, and was for some time controller and treasurer of the India Tire & Rubber Company. He brings to this problem the breadth of experience he has gained in that variety of positions.

I take a great deal of pleasure in calling on Walter F. Vieh, a member of the firm of J. O. McKinsey & Company of Chicago.

HOW THE CONTROLLER MEETS THE REQUIREMENTS OF THE SALES DEPARTMENT

WALTER F. VIEH,

J. O. McKinsey & Company, Chicago, Illinois.

I am at the same time in perhaps one of the most fortunate positions a speaker ever found himself in and in one of the most unfortunate. I say fortunate because what I have to say has been so well introduced by the speaker ahead of me. That makes it unnecessary for me to use much of your time in introductory remarks. I say unfortunate because I have been sort of placed on the spot. As you realize, Mr. Margeson demands a lot of information. He wants his information rather specifically. It is up to me to endeavor to show you how that specific information can be provided.

It occurred to us that the most satisfactory way to do that was to present a number of slides, which would illustrate the forms that are being used for the collection and reporting of information.

I would like to point out at this time that in presenting these forms we shall endeavor to illustrate those points which Mr. Margeson has made, more or less in the sequence in which he has made them. That means, obviously, we can not discuss a given form in its entirety at one time. We may have to go through some repetition. We shall flash one slide on the screen at one moment and discuss only certain phases of that, and subsequently return to that slide and point out some other information which is desirable for our purposes.

Mr. Margeson has explained to you that one of his first problems is to determine what products shall be sold. Having made a decision with regard to that problem, the management then wishes to know how the sales are materializing in comparison with the tasks they have set for themselves. Information for this purpose is provided in summary form in a report of sales by products, as illustrated by Form 1.

This report shows the grand aggregate of all sales, and an analysis of the total by major classifications—men's hose, women's hose, and children's hose. Each of those classifications is further analyzed into full-fashioned hose and seamless hose. These are again broken down into sub-classifications—firsts, seconds, and others.

You will observe that we make comparison between the task set and the actual results obtained, not only for the month but also for

PHOENIX HOSIERY CO.

REPORT OF SALES BY PRODUCTS

MONTH OF _____ 193 ...

	THIS MONTH				LAST MONTH		SAME MONTH LAST YEAR		THIS YEAR TO DATE				LAST YEAR TO DATE	
	BUDGET		ACTUAL		ACTUAL		ACTUAL		BUDGET		ACTUAL		ACTUAL	
	DOZENS	AMOUNT	DOZENS	AMOUNT	DOZENS	AMOUNT	DOZENS	AMOUNT	DOZENS	AMOUNT	DOZENS	AMOUNT	DOZENS	AMOUNT
MENS														
Full Fashion—Firsts														
Seconds														
Others														
Total														
Seamless —Firsts														
Seconds														
Others														
Total														
Together —Firsts														
Seconds														
Others														
Total														
WOMENS														
Full Fashion—Firsts														
Seconds														
Others														
Total														
Seamless —Firsts														
Seconds														
Others														
Total														
Together —Firsts														
Seconds														
Others														
Total														
CHILDRENS														
Full Fashion—Firsts														
Seconds														
Others														
Total														
Seamless —Firsts														
Seconds														
Others														
Total														
Together —Firsts														
Seconds														
Others														
Total														
TOTALS														
Full Fashion—Firsts														
Seconds														
Others														
Total														
Seamless —Firsts														
Seconds														
Others														
Total														
Together —Firsts														
Seconds														
Others														
Total														

FORM 1

the year. We also compare the results for this month with those of past periods. In this case, we have the results for the last preceding month and for the same month of last year. That helps us to see the trend of our sales.

The study of this report is one step in the process of checking our results to see whether they are in harmony with our plans. We are also conducting, more or less continuously, studies of the sales of certain style numbers. For this purpose we prepare a running report of sales trend by styles, illustrated in Form 2.

This report is prepared for an entire quarter, but it is kept running weekly, so that information can be submitted in very short order for each of the major styles.

Of course, with 3,000 styles in the line, it would be obviously impossible to make suitable reports on all the styles in the line. Consequently we confine the report to those major style numbers which represent the seasonal items or the major staples from which the largest volumes of our business come. We also introduce any other item whose sales history we may wish to watch closely.

For each style number we report the weekly budget of sales, and information as to past performance. Under "weekly sales for the last quarter" we show what happened for the first week in that quarter, what happened for the average during the quarter, and what happened during the last week. That, you will see, shows the trend of our sales in any one style number during the last quarter and also indicates by comparison whether we are realizing our budgets.

Then we go a step further. Week by week during the quarter we report the sales for that week. This enables us to follow the course of sales of any number very closely.

When we introduce new numbers, we follow them with a great deal of interest. Normally the tendency should be for the volumes of these numbers to increase steadily until they reach their full popularity. In our studies we expect to see that volumes do increase. If the trends give an indication that the sales will not reach the point which we anticipated, we have our signal that an emergency adjustment must be made in our production schedule.

This report is, of course, being continuously studied by the general manager, by the sales manager and by the controller. It is constantly before the director of planning.

Using as a background the sales studies made in Forms 1 and

PHOENIX HOSIERY CO

RUNNING REPORT OF SALES TREND BY STYLES

QUARTER ENDING _____ 193

	STYLE NO	BUDGETED WEEKLY SALES	WEEKLY SALES LAST QUARTER: FIRST WEEK	WEEKLY SALES LAST QUARTER: AVERAGE	WEEKLY SALES LAST QUARTER: LAST WEEK	WEEKLY SALES BY WEEKS ENDING THIS QUARTER													TOTAL FOR QUARTER	AVE FOR WEEK

FORM 2

2, and having in mind our plans for the future, we are now in position to prepare a production schedule, such as shown in Form 3.

The preparation of this schedule is primarily the function of the director of planning. In that function he is necessarily assisted by the controller and by the sales manager, and obviously the schedule must go to the general manager for final approval.

It has been pointed out to you that our production plan is not based upon what we choose to produce, but rather upon what we think we can sell. Therefore, in setting up our production schedule we begin with a budget of sales expectations.

These sales estimates are broken down into the two major classifications of full-fashioned and seamless hose. Then we must know the probable volume of sales of first-class merchandise, and how much of this will be sold in Phoenix packing and how much in special packing. Next we must know what our closing inventory position is to be. The estimated sales and the closing inventory are added together, and the opening inventory is deducted from this total to find how much production is required.

We know from experience that despite our best efforts, a considerable part of our production comes out as seconds, or defective merchandise. This is an unavoidable incident to our business. Our experience has taught us that under normal circumstances we can estimate reasonably well what percentage of our total production will turn out to be seconds. In preparing our production schedule, therefore, we estimate what our probable production of seconds will be, and add this to our requirements for firsts. This gives us the total production schedule for the period.

Our schedule also contains some statistical information which helps us, in studying it, to determine whether it is workable and sound. We insert here the estimated and actual percentage of seconds to totals. We also insert the number of working hours per week on which our operations are now based. Then we insert the number of knitting machines required to produce our schedule in that number of working hours. And as against that, we insert the number of knitting machines which are available.

Obviously, if our production schedule is larger than our available knitting machines can produce, something must be done. Perhaps we can turn to an increased number of shifts. Perhaps we can lengthen the shifts. But in any event, we must provide for taking up the excess of production required by this schedule over the

PHOENIX HOSIERY CO

PRODUCTION SCHEDULE

MONTH OF_____ 193__

	TOTAL					MENS					WOMENS					INFANTS AND CHILDRENS				
	THIS MONTH	THIS HALF YEAR		LAST MONTH		THIS MONTH	LAST MONTH		THIS HALF YEAR		THIS MONTH	LAST MONTH		THIS HALF YEAR		THIS MONTH	LAST MONTH		THIS HALF YEAR	
	BUDGET	BUDGET	ACTUAL	BUDGET	ACTUAL	BUDGET	BUDGET	ACTUAL	BUDGET	ACTUAL	BUDGET	BUDGET	ACTUAL	BUDGET	ACTUAL	BUDGET	BUDGET	ACTUAL	BUDGET	ACTUAL
FULL FASHION																				
Sales of Firsts																				
Phoenix Packing																				
Special Packing																				
Total																				
Closing Inventory Required																				
Total																				
Opening Inventory Deducted																				
Production of Firsts Required																				
Probable Production of Seconds																				
Production Required in Total																				
Percent of Seconds to Total																				
Working Hours per Week																				
No. of Knitting Machines Required for Schedule																				
No of Knitting Machines Available																				
SEAMLESS																				
Sales of Firsts																				
Phoenix Packing																				
Special Packing																				
Total																				
Closing Inventory Required																				
Total																				
Opening Inventory Deducted																				
Production of Firsts Required																				
Probable Production of Seconds																				
Production Required in Total																				
Percent of Seconds to Total																				
Working Hours Per Week																				
No. of Knitting Machines Required for Schedule																				
No. of Knitting Machines Available																				
TOTAL																				
Sales of Firsts																				
Phoenix Packing																				
Special Packing																				
Total																				
Closing Inventory Required																				
Total																				
Opening Inventory Deducted																				
Production of Firsts Required																				
Probable Production of Seconds																				
Production Required in Total																				
Percent of Seconds to Total																				
Working Hours Per Week																				
No. of Knitting Machines Required for Schedule																				
No. of Knitting Machines Available																				

FORM 3

facilities that are available. Alongside of our schedule, or our production budget for this month, we report, for comparative purposes, the budget and actual results for last month and for this half-year to date.

As you gentlemen all know, the comparison of budgets with the actual results obtained, and the analysis of the differences, provides us with much necessary information required for the preparation of new budgets.

The production schedule is prepared for one month in advance. Under normal circumstances it would remain fixed for the month. If, however, upon studying data such as we get from the two reports previously discussed, we find that some emergency changes must be made, this production schedule, of course, must be revised. This may be done at any time.

The production schedule is not supported by very much detail in the form itself, although in the files of the production manager and in the files of the director of planning there is a host of information to which reference can be made to determine exactly what elements of production make up the total production schedule.

So much for the question of what products we shall sell. We now come to the question of to whom we shall sell, and an analysis of the results we are getting through various channels of distribution. We first prepare a customer analysis by size of accounts, as shown in Form 4.

In this report we analyze our sales by groups of customers according to their annual purchasing rates.

We are satisfied in reports of this kind to get our trends for a relatively long period. You will observe, therefore, that we make this report for a quarter-year and not more frequently.

Classification of customer's purchasing power is as follows:

1. $10,000 and over
2. $ 5,000 to $10,000
3. $ 2,500 to $ 5,000
4. $ 1,000 to $ 2,500
5. $ 500 to $ 1,000
6. $ 250 to $ 500.

Under each of these classifications, we wish to know the number of accounts in the group, the aggregate amount of sales to them, and the percentage of sales in that group to the total sales.

PHOENIX HOSIERY CO

CUSTOMER ANALYSIS BY SIZE OF ACCOUNTS

QUARTER ENDING _____ 193.

	TOTAL	ANALYSIS BY CUSTOMERS BY ANNUAL PURCHASING RATES																					
		10 000 AND OVER		5 000 TO 10 000			2 500 TO 5 000			1 000 TO 2 500			500 TO 1 000			250 TO 500			UNDER 250			EMPLOYEES AND HOUSE ACCOUNTS	
	AMOUNT	NO OF ACCOUNTS	AMOUNT	PER CENT	NO OF ACCOUNTS	AMOUNT	PER CENT	NO OF ACCOUNTS	AMOUNT	PER CENT	NO OF ACCOUNTS	AMOUNT	PER CENT	NO OF ACCOUNTS	AMOUNT	PER CENT	NO OF ACCOUNTS	AMOUNT	PER CENT	NO OF ACCOUNTS	AMOUNT	PER CENT	AMOUNT	PER CENT
TOTAL SALES (Net, After Returns and Allowances)																							
This Quarter																							
Last Quarter																							
Same Quarter Last Year																							
This Year to Date																							
Last Year to Date																							
GROSS PROFITS ON SALES																							
This Quarter																							
Last Quarter																							
Same Quarter Last Year																							
This Year to Date																							
Last Year to Date																							
NUMBER OF ITEMS BILLED																							
This Quarter																							
Last Quarter																							
Same Quarter Last Year																							
This Year to Date																							
Last Year to Date																							
SALES PER ITEM BILLED (Averages for Each Group)																							
This Quarter																							
Last Quarter																							
Same Quarter Last Year																							
This Year to Date																							
Last Year to Date																							
GROSS PROFIT PER ITEM BILLED (Average for Each Group)																							
This Quarter																							
Last Quarter																							
Same Quarter Last Year																							
This Year to Date																							
Last Year to Date																							
ANALYSIS OF CUSTOMERS PURCHASES THIS YEAR TO DATE BY CHANNELS OF DISTRIBUTION																							
Department Stores																							
Specialty Shops																							
Mens' Stores																							
Others																							

FORM 4

We again have comparative information for the last quarter and the same quarter last year, and also accumulative information. This helps us to establish the trends.

Our trends are emphasized for us by an inspection of these percentages. If the percentages of the sales increase in the $10,000 bracket, that has a certain significance to us which we want to study more fully. Perhaps it is the result of securing a larger volume from the same number of large accounts. Or perhaps the number of large accounts has increased. In either event, we want to know whether the trend is for the better or for the worse. You will see from other parts of this report that we consider not only the total volume of business which each class of customers gives us, but also certain other data relative to that volume. These help us to determine whether the business is desirable from the standpoint of gross profits and from the standpoint of expense involved in handling the business.

For instance, we have on this report not only the total purchases the customers have made from us, but also the aggregate of gross profits that have been earned on that volume of business. We also know the number of items which were billed in that aggregate of business, and the sales dollars per item billed.

Then we also know the gross profit per item billed. From a study of the gross profit per item billed and the number of items billed, we begin to see whether we are doing a large amount of administrative work, selling, servicing and bookkeeping, which cost us more money than we are justified in spending for that particular bracket of the business.

That becomes a rather serious problem when we get down into the smaller accounts. Here the individual orders are usually for small amounts, and the servicing of orders is more costly proportionately than for the larger accounts.

We are also concerned with the aggregate amount of gross profit which is derived from each classification of business. For example, we may have 1,000 accounts which give us only $250 or $500 worth of business each; but if these 1,000 accounts provide a large percentage of our total gross profits, it would be distinctly to our advantage to continue to serve them, even though the average yield per dollar of sales was less than we could get from the larger accounts.

We must have gross profits obviously to finance the operations we perform. Therefore, a study of gross profits in the aggregate, as

ANALYSIS OF SALES BY CHANNELS OF DISTRIBUTION AND POPULATION CENTERS

PHOENIX HOSIERY CO

QUARTER ENDING ..... 193...

CHANNELS OF DISTRIBUTION	TOTAL		ANALYSIS OF SALES BY POPULATIONS OF CITIES																		EMPLOYEES AND HOUSE ACCOUNTS	
			OVER 100 000				50 000 TO 100 000				25 000 TO 50 000				10 000 TO 25 000				UNDER 10 000				
	AMOUNT	PER CENT	NUMBER ACCOUNTS	AMOUNT	AVERAGE PER ACCOUNT	PER CENT	NUMBER ACCOUNTS	AMOUNT	AVERAGE PER ACCOUNT	PER CENT	NUMBER ACCOUNTS	AMOUNT	AVERAGE PER ACCOUNT	PER CENT	NUMBER ACCOUNTS	AMOUNT	AVERAGE PER ACCOUNT	PER CENT	NUMBER ACCOUNTS	AMOUNT	AVERAGE PER ACCOUNT	PER CENT	AMOUNT	PER CENT
DEPARTMENT STORES																								
This Quarter																								
Last Quarter																								
Same Quarter Last Year																								
This Year to Date																								
Last Year to Date																								
SPECIALTY SHOPS																								
This Quarter																								
Last Quarter																								
Same Quarter Last Year																								
This Year to Date																								
Last to Date																								
MENS STORES																								
This Quarter																								
Last Quarter																								
Same Quarter Last Year																								
This Year to Date																								
Last Year to Date																								
OTHERS																								
This Quarter																								
Last Quarter																								
Same Quarter Last Year																								
This Year to Date																								
Last Year to Date																								
TOTAL																								
This Quarter																								
Last Quarter																								
Same Quarter Last Year																								
This Year to Date																								
Last Year to Date																								
ALLOCATION OF CUSTOMERS PURCHASES THIS YEAR TO DATE BY SIZE OF ACCOUNT																								
$10,000 and Over																								
5,000 to $10,000																								
2,500 to 5,000																								
1,000 to 2,500																								
500 to 1,000																								
250 to 500																								
Under 250																								

FORM 5

well as the detailed study of gross profits per item billed, plays a very important part in determining whether or not we shall continue to serve a certain class of customers, and where we shall place the emphasis in our sales efforts.

We now come to another analysis of the same sales, as shown in Form 5.

This time we analyze them by channels of distribution and by population centers. In our channels of distribution we show the major classifications which Mr. Margeson mentioned, namely:

1. Department Stores
2. Specialty Shops
3. Men's Stores
4. Other Classifications.

Here we divide them also by classifications of the cities in which these stores are located, and the cities are classified in terms of population. In each of the classifications we determine how much we sell to department stores, how much to men's stores, how much to specialty shops. For each of these classifications we provide information as to the number of department store accounts, the amount of business in the aggregate that comes from them, the average sales per account, and the percentage of these sales to the aggregate sales for department stores. Likewise with other types of stores.

We have another group of percentages which tells us how much of our aggregate sales goes to the department stores, how much goes to specialty shops, and how much goes to men's stores, in each of the groups of cities.

Those percentages help us to determine not only what the trends are in the development of our sales, but also where we should lay special emphasis, where we should endeavor to capitalize on sales opportunities.

Under the subject of pricing, there are a good many items which we can show to the sales management and to the general management. Our reports include a summary report of sales, illustrated by Form 6.

This is one of the first documents that comes off our statistical records. It presents primarily an analysis of all sales, but incidental to that we show what the net sales price per dozen was for this month, and compare it with the budget and with results in prior periods. There is also other comparative information such as you have seen in previous forms.

SUMMARY REPORT OF SALES

PHOENIX HOSIERY CO

MONTH OF_____ 193_

PARTICULARS	THIS MONTH BUDGET AMOUNT	THIS MONTH BUDGET PER CENT NET TO GROSS	THIS MONTH BUDGET PER CENT NET TO TOTAL	THIS MONTH ACTUAL AMOUNT	THIS MONTH ACTUAL PER CENT NET TO GROSS	THIS MONTH ACTUAL PER CENT NET TO TOTAL	LAST MONTH ACTUAL AMOUNT	LAST MONTH ACTUAL PER CENT NET TO GROSS	LAST MONTH ACTUAL PER CENT NET TO TOTAL	SAME MONTH LAST YEAR ACTUAL AMOUNT	SAME MONTH LAST YEAR ACTUAL PER CENT NET TO GROSS	SAME MONTH LAST YEAR ACTUAL PER CENT NET TO TOTAL	THIS YEAR TO DATE BUDGET AMOUNT	THIS YEAR TO DATE BUDGET PER CENT NET TO GROSS	THIS YEAR TO DATE BUDGET PER CENT NET TO TOTAL	THIS YEAR TO DATE ACTUAL AMOUNT	THIS YEAR TO DATE ACTUAL PER CENT NET TO GROSS	THIS YEAR TO DATE ACTUAL PER CENT NET TO TOTAL	LAST YEAR TO DATE ACTUAL AMOUNT	LAST YEAR TO DATE ACTUAL PER CENT NET TO GROSS	LAST YEAR TO DATE ACTUAL PER CENT NET TO TOTAL
FIRSTS																					
Gross Sales																					
Returns and Allowances																					
Net Sales																					
Dozens Sold—Net																					
Net Sales Price Per Doz																					
Cost Per Doz																					
SECONDS																					
Gross Sales																					
Returns and Allowances																					
Net Sales																					
Dozens Sold—Net																					
Net Sales Price Per Doz.																					
Cost Per Doz.																					
OTHERS																					
Gross Sales																					
Returns and Allowances																					
Net Sales																					
Dozens Sold—Net																					
Net Sales Price Per Doz																					
Cost Per Doz.																					
TOTALS.																					
Gross Sales																					
Returns and Allowances																					
Net Sales																					
Dozens Sold—Gross																					
" " —Returned																					
" " —Net																					
Net Sales Price Per Doz																					
Cost Per Doz																					

FORM 6

PHOENIX HOSIERY CO.

REPORT OF SALES AND GROSS PROFITS BY DIVISIONS

MONTH OF _____ 193__

PARTICULARS	1—EASTERN			2—MID-WESTERN			3—SOUTHERN			4—NORTH WESTERN			5—PACIFIC			6—SPECIAL SALES			TOTAL DOMESTIC			7—EXPORT			GRAND TOTAL		
	AMOUNT	PER CENT		AMOUNT	PER CENT		AMOUNT	PER CENT		AMOUNT	PER CENT		AMOUNT	PER CENT		AMOUNT	PER CENT		AMOUNT	PER CENT		AMOUNT	PER CENT		AMOUNT	PER CENT	
		RET TO GROSS	NET TO TOTAL		RET TO GROSS	NET TO TOTAL		RET TO GROSS	NET TO TOTAL		RET TO GROSS	NET TO TOTAL		RET TO GROSS	NET TO TOTAL		RET TO GROSS	NET TO TOTAL		RET TO GROSS	NET TO TOTAL		RET TO GROSS	NET TO TOTAL		RET TO GROSS	NET TO TOTAL
FIRSTS																											
Gross Sales																											
Returns and Allowances																											
Net Sales																											
Dozens Sold—Net																											
Net Sales Price Per Doz.																											
Net Sales Average Per Salesman																											
SECONDS																											
Gross Sales																											
Returns and Allowances																											
Net Sales																											
Dozens Sold—Net																											
Net Sales Price Per Doz.																											
Net Sales Average Per Salesman																											
OTHERS																											
Gross Sales																											
Returns and Allowances																											
Net Sales																											
Dozens Sold—Net																											
Net Sales Price Per Doz.																											
Net Sales Average Per Salesman																											
TOTALS																											
Gross Sales																											
Returns and Allowances																											
Net Sales																											
Dozens Sold—Gross																											
" " Returned																											
" " Net																											
Net Sales Price Per Doz.																											
	AMOUNT	% TO TOTAL SALES	% GROSS PROFIT TO SALES	AMOUNT	% TO TOTAL SALES	% GROSS PROFIT TO SALES	AMOUNT	% TO TOTAL SALES	% GROSS PROFIT TO SALES	AMOUNT	% TO TOTAL SALES	% GROSS PROFIT TO SALES	AMOUNT	% TO TOTAL SALES	% GROSS PROFIT TO SALES	AMOUNT	% TO TOTAL SALES	% GROSS PROFIT TO SALES	AMOUNT	% TO TOTAL SALES	% GROSS PROFIT TO SALES	AMOUNT	% TO TOTAL SALES	% GROSS PROFIT TO SALES	AMOUNT	% TO TOTAL SALES	% GROSS PROFIT TO SALES
NET SALES COMPARISON:																											
This Month																											
% Increase over Last Year																											
Last Month																											
Same Month Last Year																											
This Year to Date																											
% Increase over Last Year																											
Last Year to Date																											
GROSS PROFIT BEFORE VARIANCES:																											
This Month																											
Last Month																											
Same Month Last Year																											
This Year to Date																											
Last Year to Date																											

FORM 7

SUMMARY REPORT OF GROSS PROFITS BEFORE VARIANCES

PHOENIX HOSIERY CO

MONTH OF_____ 193__

	PARTICULARS	THIS MONTH				LAST MONTH				SAME MONTH LAST YEAR				THIS YEAR TO DATE				LAST YEAR TO DATE			
		GROSS PROFIT	NET SALES	PERCENT		GROSS PROFIT	NET SALES	PERCENT		GROSS PROFIT	NET SALES	PERCENT		GROSS PROFIT	NET SALES	PERCENT		GROSS PROFIT	NET SALES	PERCENT	
				GROSS PROFIT TO SALES	SALES THIS CLASS TO TOTAL			GROSS PROFIT TO SALES	SALES THIS CLASS TO TOTAL			GROSS PROFIT TO SALES	SALES THIS CLASS TO TOTAL			GROSS PROFIT TO SALES	SALES THIS CLASS TO TOTAL			GROSS PROF T TO SALES	SALES THIS CLASS TO TOTAL
	FIRSTS																				
	Mens																				
	Womens																				
	Childrens																				
	Total																				
	SECONDS.																				
	Mens																				
	Womens																				
	Childrens																				
	Total																				
	OTHERS.																				
	Mens																				
	Womens																				
	Childrens																				
	Total																				
	TOTALS																				
	Mens																				
	Womens																				
	Childrens																				
	Total																				

FORM 8

The net sales price per dozen helps us to see what the trend of our pricing is. The cost per dozen, which we also show, gives us comparative figures to show us whether or not our gross profits in dollars per dozen are up to our expectations.

We have, in Form 7, a report of sales, divided as among our major subdivisions of sales activities.

We have an Eastern Division, Midwestern Division, Southern Division, Northwestern Division, Pacific Coast Division, and Special Sales. We have price information—net sales price per dozen—for each of these divisions, from which we can determine whether any division is falling down in getting the average price per dozen that we anticipated.

This report also gives us a comparison for all divisions as to the volume of business done in firsts, the business done in seconds, and the volume of other sales. These data help us to determine whether any one of these divisions is placing more emphasis upon the sales of firsts or more emphasis upon the sales of seconds than it should. If any one of the divisions has a larger percentage than usual of seconds this fact naturally raises a question as to whether the division is selling on a price basis or whether it is putting the necessary effort behind the sales of first-class merchandise.

Form 8 is a report which shows us the effect of our price ranges.

This is one of the first reports that we prepare. It gives us a quick glance at the gross profit on sales for each of our several classifications, and provides comparative information. All the way through, you see, we divide our sales into the major classifications of firsts, seconds, and others, and then into women's, men's and children's, so that we can localize our tendencies. If we find our percentage of gross profit is slipping off in any one of the brackets, we know that emphasis has to be placed upon bringing the gross profit back to previous levels, and we know that our sales management has to induce our sales department to strive harder for profit than for volume.

A study of this report also helps us to understand why it is that our total gross profit may have declined as compared with the previous month, or why we did not reach our budget. If the sales of seconds reached a larger percentage of total sales than we anticipated, we can explain a decline in our average gross profits, since the seconds did not give us the same rate of gross profit as we got out of the firsts. So by studying the percentages of the total sales

PHOENIX HOSIERY CO

ADVERTISING EXPENSE AND APPROPRIATION

MONTH OF _____ 193__

CLASSIFICATION OF ADVERTISING EXPENSE	THIS MONTH BUDGET	THIS MONTH ACTUAL	THIS YEAR BUDGET	THIS YEAR ACTUAL	PERCENTAGES (Increase or Decrease Current Month Actual Over Current Month Budget)	PERCENTAGES (Increase or Decrease Year to Date Actual Over Year to Date Budget)	PERCENTAGES (Percent Year to Date Actual Spent of Budget)	APPROPRIATIONS ORIGINAL	APPROPRIATIONS ADDITIONS	APPROPRIATIONS REDUCTIONS	APPROPRIATIONS PRESENT	EXPENDED OR DISPERSED TO DATE	NET UNEXPENDED BALANCE	COMMITMENTS NON CANCELLABLE	COMMITMENTS CANCELLABLE	BALANCE OF APPROPRIATION NOW AVAILABLE FOR EXPENDITURE OR TRANSFER
PHOENIX ADVERTISING:																
Radio																
Space																
Other																
Total Phoenix Advertising																
CO-OPERATIVE ADVERTISING																
Total Co-Operative Advertising																
Grand Total Advertising																
DEPARTMENTAL EXPENSE:																
Salaries																
Other																
Total Departmental Expense																
Grand Total Advertising Expense																

FORM 9

in each of these classifications and by studying the gross profit percentage for each of the brackets, we are able to determine where it is that our gross profit is on the decline or where it is on the increase.

We must now pass on to the subject of sales promotion and the data relative to promotion activities. We submit a report on the expenses incurred, and on the status of the appropriations, in Form 9.

The management is interested in knowing what expenditures have been incurred for direct Phoenix advertising, what expenditures have been incurred for cooperative advertising with the dealers, and what has been spent in operating the advertising department.

The Phoenix advertising is analyzed to show how much of our promotion effort is in the form of radio advertising, how much in magazine and other space, and how much in other forms of advertising. The cooperative advertising is analyzed according to such plans as we may embark upon. These plans, of course, are subject to change from time to time. If the management finds one plan is not effective, it endeavors to find others which will be, and even the effective plans are changed as rapidly as necessary to meet seasonal requirements, competitive conditions, or other circumstances.

Again we compare the budget and the actual expenditures for the month and for the year.

The status of the appropriations is of considerable importance to the management since it shows to what extent the program can be altered if desirable. We provide information as to the original amount appropriated, additions or deductions made since the original appropriation, and the amount of the appropriation as it now stands. Against this amount we set the expenses or the disbursements, to date, so as to arrive at the net unexpended balance. Then we show how much of the unexpended balance is under commitments which are non-cancellable, how much under commitments which are cancellable, and the remaining balance of the appropriation which is available for transfer or use elsewhere.

That information enables us to study our advertising appropriation intelligently in connection with any revision of our plans which we may wish to make.

We come now to the subject of supervision of our sales. We have already seen how the summary report of sales, Form 6, is useful in the study of pricing. It is also very useful as a means of showing the sales manager how his sales are tending. It helps him find the spots where emphasis needs to be laid.

CONDENSED PROFIT AND LOSS ACCOUNT FOR DOMESTIC DIVISIONS AND BUDGET COMPARISON

PHOENIX HOSIERY CO.

MONTH OF _____ 193__

MONTHLY	EASTERN				MID WESTERN				SOUTHERN				NORTH WESTERN				PACIFIC COAST				TOTAL			
	BUDGET	ACTUAL	% TO SALES BUDGET	% TO SALES ACTUAL	BUDGET	ACTUAL	% TO SALES BUDGET	% TO SALES ACTUAL	ACTUAL	BUDGET	% TO SALES BUDGET	% TO SALES ACTUAL	BUDGET	ACTUAL	% TO SALES BUDGET	% TO SALES ACTUAL	BUDGET	ACTUAL	% TO SALES BUDGET	% TO SALES ACTUAL	BUDGET	ACTUAL	% TO SALES BUDGET	% TO SALES ACTUAL
Sales																								
Returns and Allowances																								
Net Sales																								
Cost of Goods Sold (Standard)																								
Gross Profit																								
Deduct Direct Branch Expense																								
Salaries-Mgrs. & Asstz.																								
Salaries-Salesmen																								
Traveling Expense																								
Total Selling Sal. & Travel.																								
Gross Profit Less Sell. Sal. & Travel.																								
Salaries-Shipping, Order Filling & Warehousing																								
Salaries-Clerk's & Stenos																								
Rent																								
Other Direct Branch Expense																								
Total Direct Branch Exp																								
Net Profit, Subject to Deduction for Home Office & General Expenses & Income Deductions																								

CUMULATIVE	EASTERN				MID WESTERN				SOUTHERN				NORTH WESTERN				PACIFIC COAST				TOTAL			
	BUDGET	ACTUAL	% TO SALES BUDGET	% TO SALES ACTUAL	BUDGET	ACTUAL	% TO SALES BUDGET	% TO SALES ACTUAL	BUDGET	ACTUAL	% TO SALES BUDGET	% TO SALES ACTUAL	BUDGET	ACTUAL	% TO SALES BUDGET	% TO SALES ACTUAL	BUDGET	ACTUAL	% TO SALES BUDGET	% TO SALES ACTUAL	BUDGET	ACTUAL	% TO SALES BUDGET	% TO SALES ACTUAL
Sales																								
Returns and Allowances																								
Net Sales																								
Cost of Goods Sold (Standard)																								
Gross Profit																								
Deduct Direct Branch Expense																								
Salaries-Mgrs & Asstz.																								
Salaries-Salesmen																								
Traveling Expense																								
Total Selling Sal & Travel																								
Gross Profit Less Sell Sal & Travel.																								
Salaries-Shipping, Order Filling & Warehousing																								
Salaries-Clerk's & Stenos.																								
Rent																								
Other Direct Branch Expense																								
Total Direct Branch Exp																								
Net Profit, Subject to Deduction for Home Office & General Expenses & Income Deductions																								

FORM 10

In the report of sales by products, Form 1, the sales manager has a fuller and more complete statement of sales which enables him to localize, still further, the problems which confront his department.

We also provide the sales manager with the report of sales and gross profits by branches, Form 7, giving him comparative information as to sales, and as to the gross profits earned on the sales. These comparisons enable him to see which of the branches are in greatest need of supervision. For this purpose, gross profit is based upon standard manufacturing costs of sales, so it is not confused by any of the elements of variation. All the divisions are put upon a comparable basis by this procedure.

We also give him a condensed statement of profit and loss for each of the domestic divisions, as shown in Form 10.

This shows the elements of the expenses which the branches have incurred in securing their sales volumes. Having like information for all branches before us at one time, we can see where the results are good and where sales supervision is required. We are interested in the gross sales, and especially interested in returns and allowances. The cost of goods sold, as noted previously, is on a comparable basis for all branches. The expenses are those which are incurred directly by the branch only, including the salaries of managers and assistants, salaries of salesmen, traveling expenses, salaries of shipping, order and warehousing departments, salaries of clerks and stenographers, rent, and other expenses incurred by the branch. In this way we arrive at the net profit from operations of the branch before the deduction of home office overhead. By comparing the actual results with the budget at each branch, and by comparing the results at one branch with those at other branches, the sales manager obtains much valuable information to assist him in the control and supervision of his sales activities.

A refinement of the sales supervision is made possible by studying the results obtained by each salesman. For this purpose we prepare a quarterly report for each division, as shown in Form 11.

The report shows each salesman's salary, his expenses, and the cost of the merchandise he gives away to his customers' clerks to promote sales. These costs are totaled for each salesman and set alongside the volume of business he produces, and the percentage of expense to sales is also reported. Having such information the sales manager can quickly compare the percentage of expense to sales for all men, and in that way get an indication as to which salesmen are

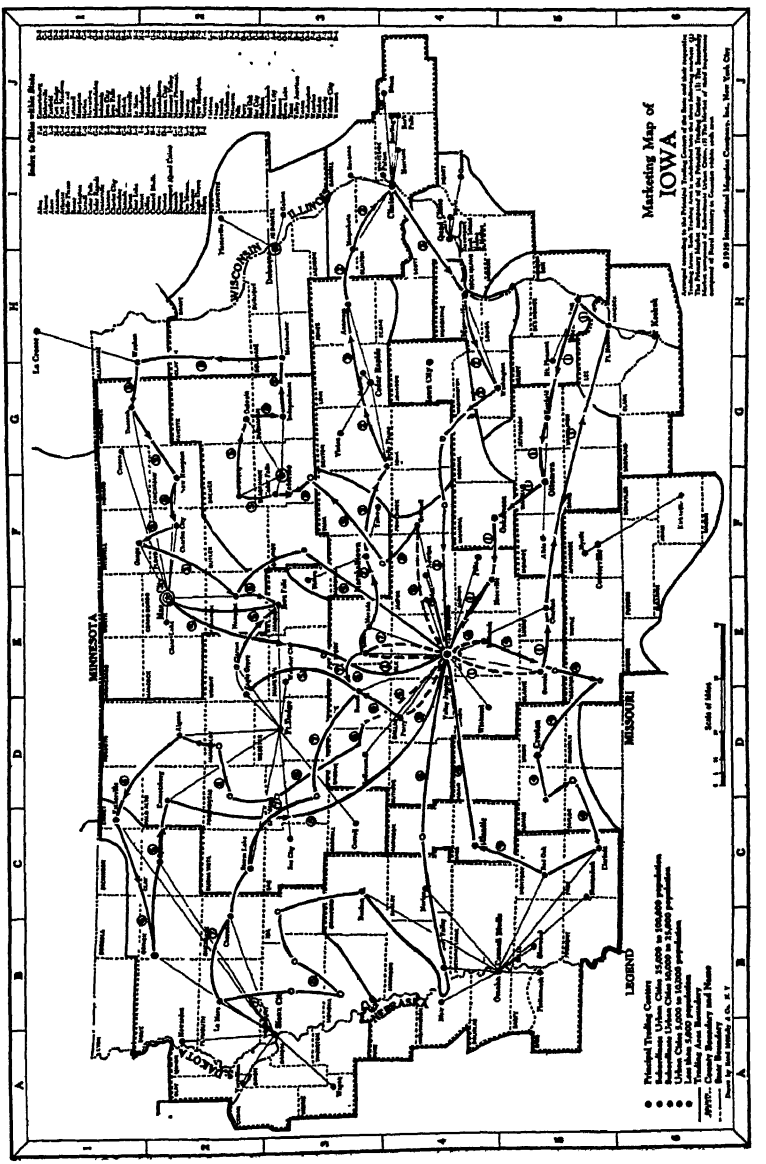
REPORT OF TERRITORY YIELD & DIRECT SALES COST

PHOENIX HOSIERY CO. _____ DIVISION QUARTER ENDING _____

SALESMEN	THIS QUARTER						SAME QUARTER LAST YEAR			INCREASE	
	SALARY	EXPENSE	GRATIS	TOT. COST	SALES	% COST TO SALES	COST	SALES	% COST TO SALES	SALES	% COST TO SALES

SALESMEN	THIS YEAR TO DATE						LAST YEAR TO DATE			INCREASE	
	SALARY	EXPENSE	GRATIS	TOT. COST	SALES	% COST TO SALES	COST	SALES	% COST TO SALES	SALES	% COST TO SALES

FORM 11


Marketing Map of
IOWA
MINNESOTA
WISCONSIN
ILLINOIS
MISSOURI
NEBRASKA
LEGEND

FORM 12

effective and which are in need of help. The same information is presented for past periods so that we may see whether any improvement is being made.

It is our practice to collect our sales statistics by territories as well as by salesmen, so that when changes in territory occur, we have the means of making suitable adjustments in past performance to avoid distortion. A salesman's volume in his present territory may then be compared with sales made in the same territory in the past.

To make sure that a salesman is covering his ground in the most effective manner, we have him submit to us daily reports of the towns he has covered, the calls he has made, and what results he has obtained. These daily reports are then summarized to show how well the territory is being covered, and the efficiency of the routing which the salesman adopts.

Here is a map of one salesman's territory, Form 12.

This is a map of the state of Iowa. The salesman has headquarters in Des Moines. His routings on his several trips out of Des Moines are traced by the lines you see drawn on the map. The lines are numbered to identify them from the beginning of the trip to the end, and to identify them also with the trip reported.

This man did a good job, not only in covering all of his territory, but also in laying out his routing efficiently so that he got around to all the customers he should see in a certain period of time, without much lost motion.

Return sales are a very important item with us, since it is our policy to take back from a customer overly large stocks of material which he has been unable to sell. This is on the assumption that we have sold him something he was not able to merchandise to the best advantage. We also believe that this policy paves the way for new sales, and helps to avoid blocking the sales channels. We also accept returns for a number of other reasons. Naturally, the practice is subject to abuse, and requires very close supervision.

We make a comprehensive analysis of returns, and prepare this report, Form 13.

The report shows the reason why the goods were returned, how much was returned, and what percentage the returns bore to gross sales. We watch the tendencies closely, and make special investigations where necessary.

Irregularities are also carefully watched. By irregularities, we mean seconds and close-outs. A report is rendered monthly showing

PHOENIX HOSIERY CO.

REPORT OF RETURNED SALES

MONTH OF _____ 193__

REASONS	CLASS	THIS MONTH				LAST MONTH				SAME MONTH LAST YEAR				THIS YEAR TO DATE					LAST YEAR TO DATE				
		DOZENS	AMOUNT	TOTAL FOR EACH REASON	% TO GROSS SALES	DOZENS	AMOUNT	TOTAL FOR EACH REASON	% TO GROSS SALES	DOZENS	AMOUNT	TOTAL FOR EACH REASON	% TO GROSS SALES	DOZENS	AMOUNT	TOTAL FOR EACH REASON	% TO GROSS SALES	% OF CLASS TOTAL	DOZENS	AMOUNT	TOTAL PER EACH REASON	% TO GROSS SALES	% OF CLASS TOTAL
	M																						
A—Worn	W																						
	C																						
B Mfg Defects	M																						
	W																						
	C																						
C—Samples	M																						
	W																						
	C																						
D Not Ordered	M																						
	W																						
	C																						
E - Rec'd too late	M																						
	W																						
	C																						
F- Duplications	M																						
	W																						
	C																						
G—Substitutions	M																						
	W																						
	C																						
H—Discontinued Styles and Colors	M																						
	W																						
	C																						
J—Overstocked	M																						
	W																						
	C																						
K—Stock Control	M																						
	W																						
	C																						
L—Good Will	M																						
	W																						
	C																						
M—Shipment Refused	M																						
	W																						
	C																						
N—Exchange-Firsts	M																						
	W																						
	C																						
R—Our Selection Unsatisfactory	M																						
	W																						
	C																						
T—Unsatisfactory Seconds & Closeouts	M																						
	W																						
	C																						
W—Firsts not up to Standard	M																						
	W																						
	C																						
Totals	M																						
	W																						
	C																						

FORM 13

PHOENIX HOSIERY CO.

REPORT OF CLOSEOUTS

MONTH OF _____ .193_

ITEMS CLOSED OUT DURING PERIOD

STYLE	WHY CLOSED OUT	TO BE SOLD BY WHOM	DOZENS ON HAND	BALANCE PRICE AS PRINTS		BALANCE PRICE AS CLOSEOUTS		MANUFACTURING COST		AS-USED INVENTORY VAL.	
				PER DOZ.	TOTAL	PER DOZ.	TOTAL	PER DOZ.	TOTAL	PER DOZ.	TOTAL

what losses were incurred as a result of closing out items during the month, and also showing the position of the close-out inventory. This report is shown as Form 14.

The status of the close-out inventory is somewhat of a measure of the effectiveness of our sales and production planning. Rather complete information as to close-outs is necessary. Our report itemizes the style numbers closed out, and shows for each style number, the reason why it is closed out, who is to be charged with the responsibility of selling it, the number of dozens on hand, the original selling value, and the selling value as a close-out. This gives us an idea of the loss in potential sales value. We also report the manufacturing cost and the new inventory value so that we can see what our immediate inventory loss is going to be.

Then as to our closed-out inventory position, we show for men's, women's and children's hose the inventory at the beginning of the month, the quantity which was closed out during the month, and any which were produced subsequent to the classification as close-outs. We sometimes have tail-ends of production coming through after a number has been classified as a close-out. We also show the quantity sold during the month and the inventories remaining at the end of the month.

We also have a report of seconds which analyzes the defective production as to the causes for the defects, as shown in Form 15.

This is primarily of interest to the production department, but it is also of vital interest to the general manager. The sales manager is also concerned with it because it helps him to see where trouble may be brewing. Some lines of hosiery may be productive of a greater percentage of defectives than others. If the sales manager is made aware of that fact he may consider it good cause for eliminating that item from the line or perhaps for changing the styling or designing.

For each style number we report the number of firsts produced, the number of seconds produced, and the total production, and the percentages of seconds to total. Then we report the reasons why they were seconds. Some of the defects may be traced to the manufacturing department. Some of them are due to faulty yarn. And some others are incidental to finishing operations. That analysis helps us to control the extent of the defectives, by showing us where the troubles occur.

The sales manager is charged with the responsibility of maintaining his prices, and earning a suitable gross profit. He is also respon-

PHOENIX HOSIERY CO.

REPORT OF SECONDS

QUARTER ENDING ... 193 .

STYLE NUMBER	FIRSTS	SECONDS	TOTAL	PERCENT SECONDS TO TOTAL PRODUCTION: DURING	PERCENT SECONDS TO TOTAL PRODUCTION: SINCE	MANUFACTURING: BODIES	MANUFACTURING: LEGGING: NEEDLES	MANUFACTURING: LEGGING: RIBBED PLAIN AND TUCK	MANUFACTURING: LEGGING: LOOPER WHEEL AND TRICOT	MANUFACTURING: FOOTING: NEEDLES	MANUFACTURING: FOOTING: RIBBED PLAIN AND TUCK	MANUFACTURING: FOOTING: INSP. PRESS	MANUFACTURING: TOTAL DOZ.	MANUFACTURING: % OF SECONDS	YARN: KNOTS & SLUBS	YARN: BURNS BROKEN	YARN: FINE PICKED	YARN: TWIST OFF	YARN: WIND BROKEN	YARN: THREAD TAKE	YARN: % OF SECONDS	FINISHING: BOARDS	FINISHING: BOARDS	FINISHING: DYE SPOTS	FINISHING:	FINISHING:	FINISHING: % OF SECONDS

FORM 15

sible for planning the sales and for selling the merchandise produced in accordance with his plans. It is his responsibility to dispose of the irregular merchandise as well as the first-class material. And he is obliged to keep his expenses within reasonable limits in discharging these responsibilities. For these and other reasons the sales manager is very much concerned with the establishment of proper control over sales returns and over the items which we have called irregularities.

Gentlemen, I have endeavored to show you how the controller can assist the sales manager in solving some of the problems which Mr. Margeson described. I should be pleased to have you ask any questions which this discussion may have raised.

CHAIRMAN GREER: Thank you, Mr. Vieh. All of us enjoyed that a great deal. I am sure we are all impressed with what a far cry some of this is from double entry bookkeeping. We have come a long way, when we as accountants, undertake to furnish the type of information which Mr. Vieh has been discussing with you this morning. Perhaps we are becoming sales-minded, perhaps we are becoming management-minded. Surely that is what we need above all things if we are to realize the possibilities that lie before us.

In the admirable address that he gave yesterday, Mr. Pinkerton stressed particularly the importance of the presentation of the accounting material to the executive. You will recall how much emphasis he laid on the importance of selecting the material that the executive wants, of organizing it so that the executive can understand it, of bringing it in to him with a sympathetic point of view, coming not as a critic, coming not as a cold-blooded student of figures, but as an individual who understands management problems, who thinks in managerial terms, who doesn't divorce himself from the operations of the business, as I think many accountants are prone to do.

Our final talk on the program this morning I feel sure will give you a very clear impression of how that problem of presentation has been met in one of our large and most notably successful industries. While in judging management methods we may lay too much stress on the success of the industries that employ them, it is always very pleasing to find what are undoubtedly good methods in use in concerns which are undoubtedly successful, and it is always particularly convincing to hear a presentation of sound methods from an outstandingly successful man in an outstandingly successful company.

You are all acquainted with the next speaker. You know him

and you know his company. The chairman likes to have something to say about a speaker whom he is to introduce, but sometimes he confronts a situation where the speaker is so well known and his accomplishments are so much a matter of public knowledge that it seems unnecessary to recite any of them.

I will simply remind you of the fact that our next speaker, Harry A. Bullis, has been connected for a good many years with General Mills, Inc., and that he occupies the position of vice president, secretary, controller, director, and member of the executive committee of that organization, and, last but not least, that he has been one of the important factors in the success of this organization, the National Association of Cost Accountants. He is vice president of the Association at the present time, and has been its leader in many activities for a number of years past.

It is very pleasant to be able to introduce to you Mr. Bullis, who needs no introduction.

PRESENTATION OF CURRENT AND BUDGETARY REPORTS

HARRY A. BULLIS

Vice President and Secretary

General Mills, Inc., Minneapolis, Minnesota

MY introduction as vice president and the fact that Mr. Greer is opening and closing this session with a vice president reminds me of the story of the Minnesota farmer and the banker. The farmer was accustomed to visiting one of the large banks in Minneapolis and he was quite impressed with the number of vice presidents that were apparently necessary for the proper functioning of the institution. One day the president of this bank called on the farmer. They were standing in the barnyard chatting when the bank president noticed a man in overalls leave the back door of the house and walk toward the barn. "Your hired man?" asked the banker. "Oh, no," replied the farmer, "That's the Vice President in charge of Cows."

My subject is the presentation of current and budgetary reports. The presentation of operating reports in a manner which will indicate accurately and concisely to executives the current accomplish-

ments and trends in a business is to a great extent an art, by which an otherwise inert mass of data is converted into a series of simple "fact and figure pictures" which tell in vivid fashion the story of what is happening while it is still news. As the modern world is demanding a high degree of intelligence and character from executives responsible for business management, requiring of them the ability to think clearly and the moral courage to make sound decisions promptly on the basis of the facts, so it is also insisting that accountants develop methods of presentation of operating reports which, by placing all the facts before the executives in readily understandable form, will aid them in performing the functions of management.

The Budget

An enterprise cannot remain stationary; it must either go forward or slip backward. To go forward, it is necessary to look ahead, to adjust the operations of a business to the times, and to secure and maintain the effective balance necessary to the earning of maximum profits—the objective of every business. An effectively designed and operated budget, which furnishes a well-rounded picture of probable sales, production, income, and expense, as well as profit or loss, for a definite future period, is in effect a forecast of the future, and a valuable aid to the management in planning its course.

The presentation of current records compared with budget figures furnishes an automatic incentive to greater efficiency by capitalizing the psychological fact that if an individual realizes that his record is being compared with the standard or the budget, and is being checked with that of other individuals doing similar work, he will strive to attain the standard or budget and to make the best record possible. For example, if a salesman accepts a certain quota as a goal and his actual sales are compared each month with the quota, he will endeavor to reach the goal just as a baseball player tries to better his published batting average so that it will approach 100%.

The budget is a tool of management and, like any other tool, it must be used to be effective. A hammer and nail are useless unless there is a well-directed driving power behind the hammer. After the budget is once set, some one must follow through to secure action. The budget must be a basis for action. "Intelligent action" is the watchword of modern business. The test of following up the budget does not lie in the original compilation and presentation of the bud-

get figures, but in the follow-up secured through current, scheduled presentation of graphic and tabulated records, supplemented by personal letters and oral conferences.

The installation of a budget in a concern which does not have one is not so difficult as it might appear to be from listening to the presentation of a complete budget plan, as the budget is usually developed slowly from a modest beginning and built up gradually over a series of years until all desired features are included and practically all activities are covered.

Pictures, Tables, and Charts Presented to Emphasize Fundamentals

I will discuss certain fundamentals of the presentation of current and budgetary reports which may be used in a small company as well as in a large company.

I will show several pictures and charts to bring out these fundamentals. I want to take this opportunity of thanking Mr. J. Charles O'Gorman, the efficient Secretary of our Detroit Chapter, and the members of General Motors Photographic Department, General Motors Research Building, Detroit, Michigan, for their fine work in transferring these photographs and sketches to slides. The value of the photographs and charts is not in themselves but in the ideas which I hope they will bring forth.

Even though I am not much of a story teller, I think that I will tell a story which Charlie Schwab told on the occasion of a dinner for Mr. Cyrus Curtis, publisher of the *Saturday Evening Post* and the *Ladies Home Journal,* which illustrates how the ideas which we have in mind often stimulate an unexpected reaction. Mr. Schwab told how he had learned to appreciate art by looking over the pages of the *Ladies Home Journal.* As a result of his knowledge in the field of art, one day when he was walking through the steel plant during the noon hour, and noticed a large steel worker in a red shirt leaning against the framework of an open door, he said, thinking to pay the worker a compliment, "Bill, you look just like an old Rembrandt." "Well, Charlie," said the steel worker, who knew Mr. Schwab by his first name, "You don't look so hot yourself."

Budgets are likely to cause a strain not only in business but in the home. A housewife, who had been told by a speaker at a club meeting that a modern family needed a budget, said to her husband that their family was, after all, like a modern corporation and as such should know how much to spend for every little thing by just look-

ing at the budget. Therefore, she purchased "The Principles of Family Finance," learned the budgeteer's language, and worked out a budget, complemented, of course, by several graphic charts, for hadn't the speaker told her "All budget keepers make graphic charts." After budgeting for several months, her husband's reaction is shown in

FIGURE 1

Figure 1, by the kind permission of the copyright owners, Gaar Williams and *The Chicago Tribune*. Note that in his frenzy, he says, "I'm off this budget stuff. All it does is make the money *you* spend look O. K. and the money *I* spend look like it was 'blown in!'" That's what the General Sales Manager, in an unguarded moment, usually says about the selling expense budget.

Chart Cabinets, Frames, and Stands

We have found that the visual method of presenting records is simple, direct, practical, and effective.

Figure 2 is the picture of a movable chart cabinet in use in the office of General Mills, Inc. and especially built for the purpose for which it is used. This cabinet is approximately 5 ft. 6 in. long,

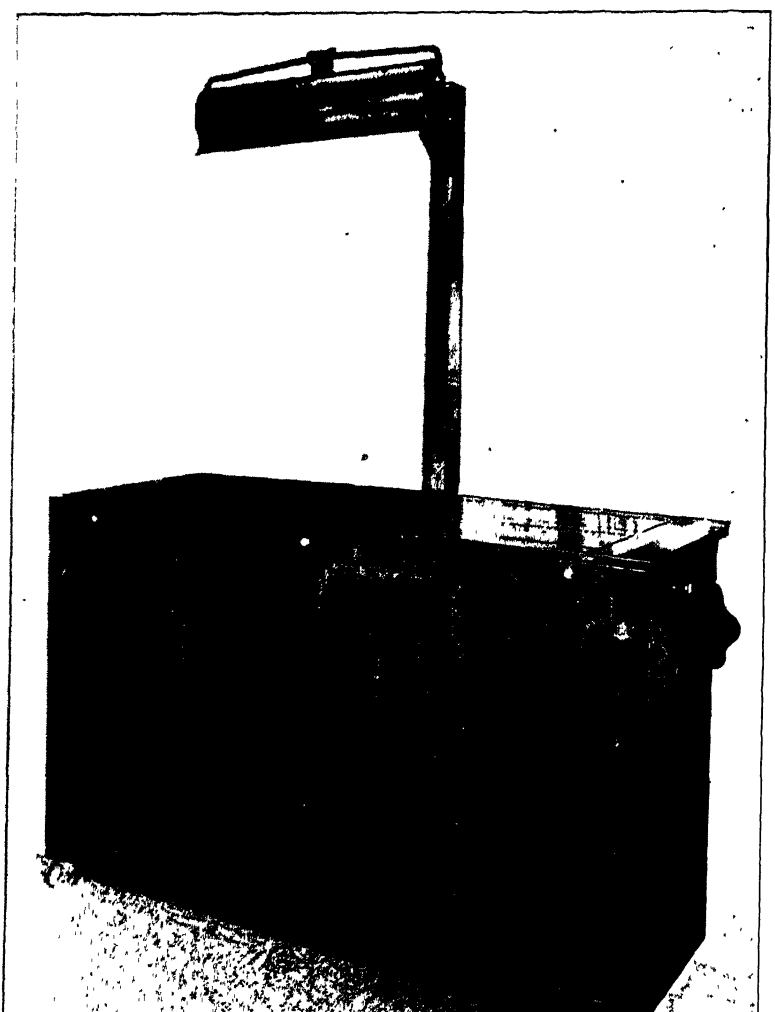


FIGURE 2

2 ft. wide and 3 ft. 6 in. high. It is locked when not in use and a movable light post is used with it. The cabinet is designed so that the top may be turned back, the posts at each end of the cabinet pulled up, and any one of the charts hung on these posts to display it to a small group of people, such as meet at a sales conference or a directors' meeting. A cabinet of this kind may be used by a smaller company to just as good advantage as by a larger company.

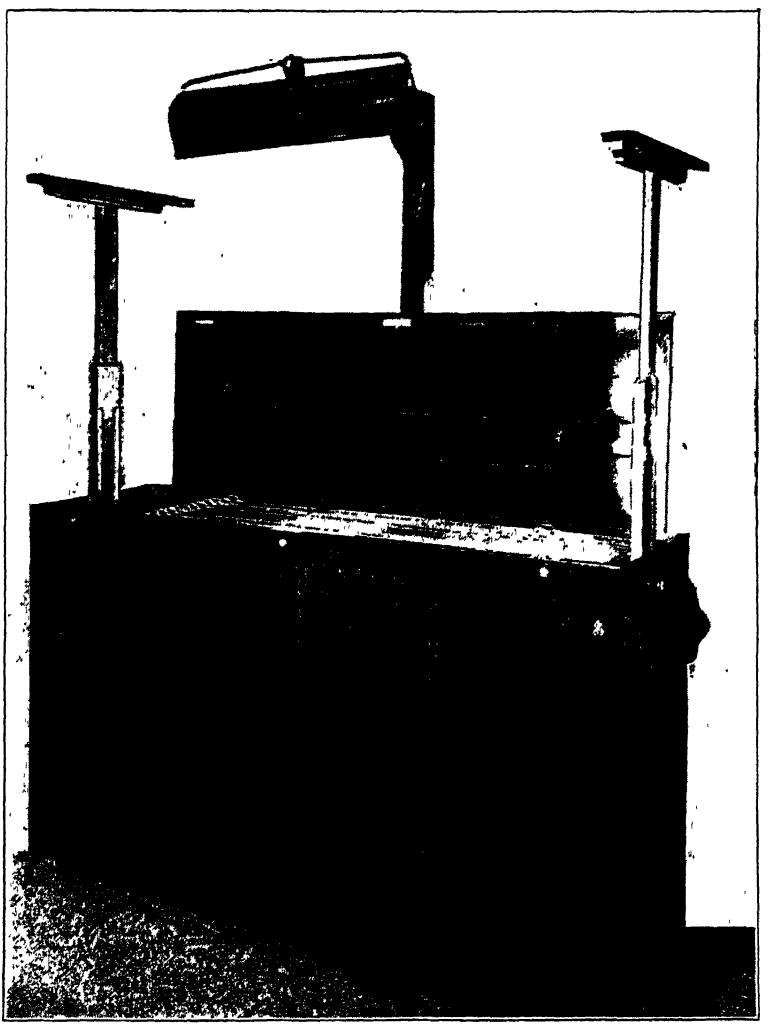


FIGURE 3

We accountants should use creative salesmanship in presenting figures and serve them up in the best dress possible. Dr. Ivy says that salesmanship is giving the other fellow your estimate of the value of your merchandise and that creative salesmanship is creating and building value in the minds of those who will use your merchandise. The accountant's merchandise is his reports, which reflect the effects of certain causes. In selling his reports, the accountant is

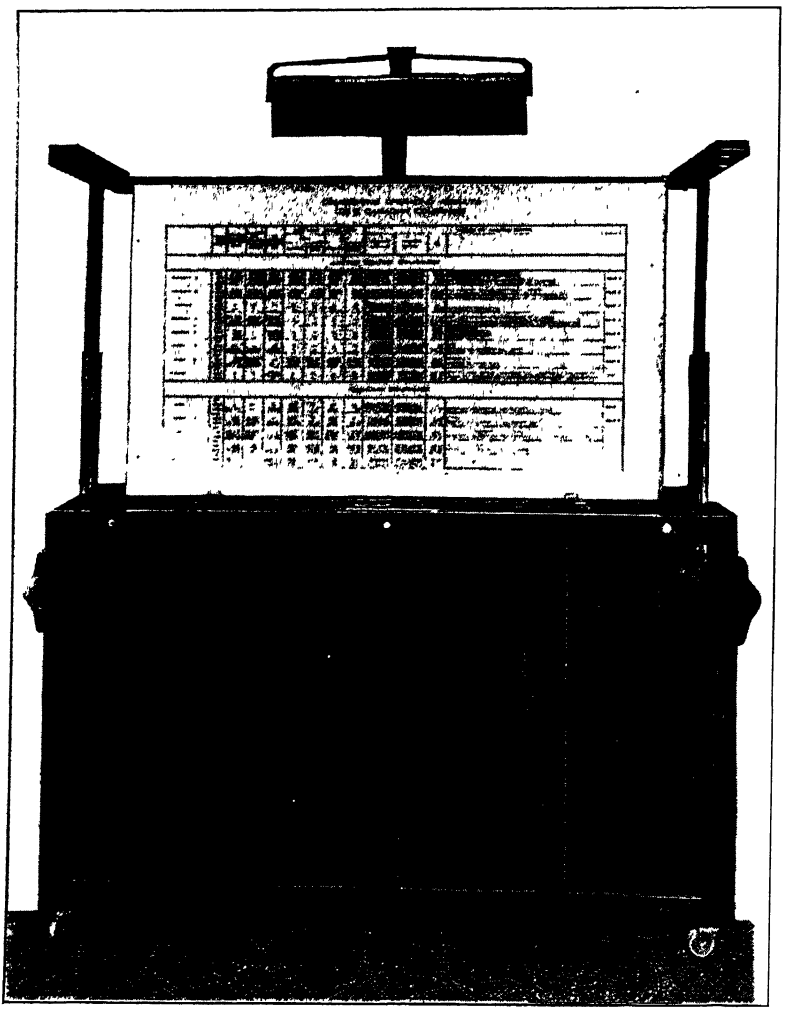


FIGURE 4

not merely selling figures, he is selling profits and easier ways of getting things done by pointing out how the causes resulting in current performance should be modified to result in desired performance.

A large part of the value of the best accounting system in the world would be lost if the results are presented in a way that will not put them across. No one cares to wear a rough diamond in a ring even though it is worth thousands of dollars. The diamond must be polished first. Therefore, it behooves you to cut and polish your reports so that when you present them their true worth will be recognized.

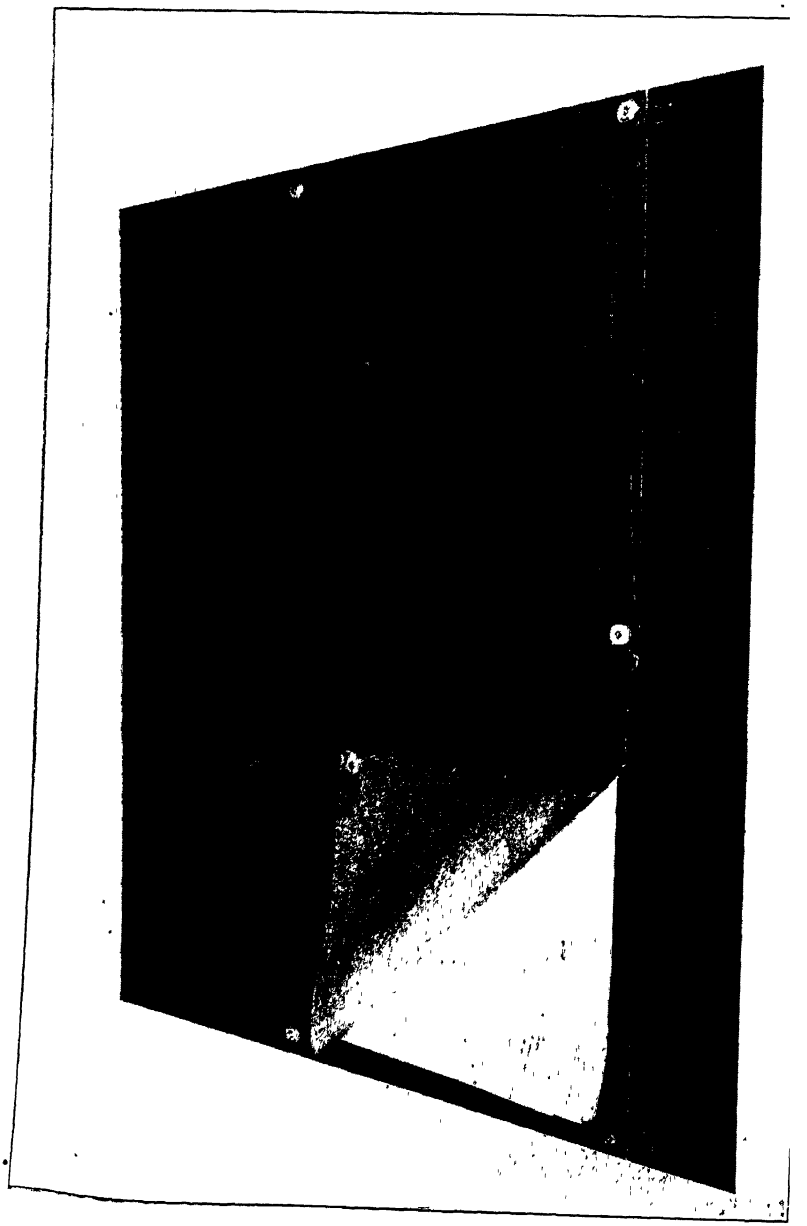
Figure 3 shows the same chart cabinet open. The top of the cabinet has been turned back and the side posts pulled up. The tops of the charts are visible in the cabinet.

Figure 4 is a front view of the same cabinet with a chart in place. The other charts are hanging in the cabinet ready to be pulled up and slid into the top of the upright posts. When the presentation of one chart is finished, the chart is lowered and another one pulled up.

The chart shown in the cabinet has no particular significance except that it illustrates the possibilities of combining on one chart tabular and graphical presentation. The bar chart, illustrated at the right of the table, is a form of chart which is probably easier to understand and to make than any other form of chart, so that it is rather frequently used. The essentials of a bar chart are that the bars must be parallel with each other and that they must start from the same base line.

Figure 5 illustrates a chart rack used by General Mills, Inc. and made for my personal office use. The rack or frame is 3½ feet long and 2½ feet wide. In the picture the frame is closed and lying on a table. The left-hand corner of the cover has been turned back to show the charts. This frame may be easily picked up and carried from office to office or taken on the train.

Figure 6 shows the same chart rack open, displaying a logarithmic chart of the XYZ Manufacturing Company, illustrating graphically the trend of inventories for the years 1929, 1930, 1931, and for the first five months of 1932. Each line shows the trend of one inventory item,—the first line for Raw Material 1, the second for Product A, the third for Raw Material 2, and the fourth for Product B.



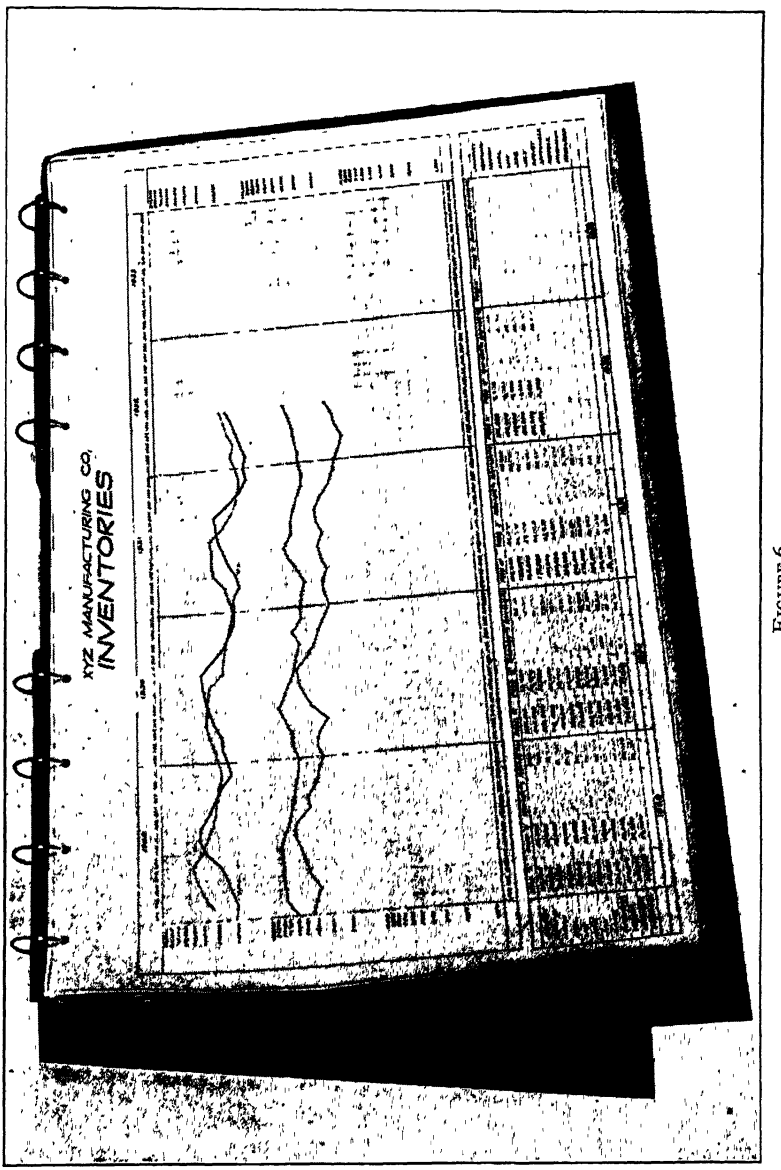


FIGURE 6

The logarithmic or ratio chart emphasizes the ratio of change in numerical quantities. Charts of this type are used to compare relative fluctuations of series differing widely in their absolute numbers; it is possible on the same logarithmic chart to show the fluctuations of the parts of a total as well as the fluctuation of the total. Such charts take care of the "peaks" which sometimes develop on coordinate graphic paper, and emphasize relative changes which usually are matters of vital interest. "The slope of the line tells the story" is a descriptive statement which aptly summarizes the logarithmic or ratio chart.

The chart shows that the raw material peak of the XYZ Manufacturing Company is usually reached in April or May, and that the peak of the finished inventories is reached during June, July, or August. The finished products inventories peak has been reached one month later each year for the years 1929, 1930, and 1931. The chart also shows that the inventories at the end of each year have been lower than of the preceding year.

This chart illustrates the principle of having the data supporting the graphs tabulated on the same sheet, but not on the plotting area. As some people are not chart-minded, and do not visualize records through graphic pictures, it is always well to support every graphic picture with the figures from which the charts were made.

Since many people cannot comprehend graphic charts, too much emphasis cannot be laid upon the necessity of keeping the graphs simple. "See the picture big and keep it simple" is a good rule to follow in making charts.

Figure 7 shows the Pyramid Sales Portfolio sold by The Michigan Book Binding Company of Detroit, Michigan. This chart rack is especially useful for presenting tables or graphs to a small sales group or for use in a private office. The Portfolio may be folded up and carried easily.

Figure 8 shows an iron chart stand used and sold by the International Harvester Company. This stand is used to present lecture charts on farm subjects in public lecturing and teaching. When the charts are to be placed on the stand, the iron rod is moved up about a foot or eighteen inches and fastened with a set screw. After the charts are adjusted to the proper height on the stand, the set screw can be fastened tightly.

Figure 9 shows the method of placing a set of charts on the

Beautifully and Conveniently Packed
1-The 12 oz. Tin
-a beautiful and practical lithographed can
2-The 1/4 lb. Package
-attractive, convenient and triple sealed
3-The 5 Lb. Tin
The "Cake Box" Tin with the new Shotwell Convex nonbreakable cover.
Shotwell's
Marshmallows

FIGURE 7

FIGURE 9

(2) The amounts to be compared should be placed in vertical columns, because the eye most easily compares figures when they are placed in a vertical column and listed close together.

(3) Secondary comparison figures should be placed in one section. For instance, the ratios are shown in one group so that the percentages for any one month are in the same horizontal line and close together.

(4) Too many figures should not be grouped on one table.

XYZ MANUFACTURING CO.

Comparative Operating Statement

1932

MONTHLY

DATE	PROFIT BUDGET	CURRENT REVISED PROFIT BUDGET	NET PROFIT	NET SALES	COST OF SALES			NET OPERATING PROFIT	MISC. INCOME	NET INCOME BEFORE INCOME TAX	PROVISION FOR FEDERAL INCOME TAX	RATIOS		
					TOTAL	MAT	EXP					NET INCOME TO NET SALES	MATERIAL TO NET SALES	EXPENSE TO NET SALES
JAN 1932	$		$ 13,730	$ 35,740	$ 49,770	$ 17,870	$ 31,900	$ 14,030	$ 300	$ 13,730		- 38.3%	49.8%	89.3%
FEB	10,000		- 7,750	54,400	62,300	27,200	35,100	- 7900	150	- 7,750		- 14.2	50.0	64.5
MAR	25,000		30,720	148,840	116,120	74420	41,700	32,720	- 500	32,220	1,500	20.6	50.0	28.0
APR.	50,000		39,260	174,000	128,800	87,000	41,800	45,200	450	45,650	6,390	22.6	50.0.	24.0
MAY	50,000		59,080	230,300	160,850	115,150	45,700	69,450	- 750	68,700	9,620	25.7	50.0	18.9
JUNE	60,000													
JULY	30,000													
AUG	20,000													
SEPT	10,000													
OCT	5,000													
NOV	5,000													
DEC.	5,000													

CUMULATIVE

2 MOS	$ 10,000		- 21,480	90,140	112,010	45,070	67,000	- 21,930	450	- 21,480		- 23.8%	50.0%	74.4%
3 "	35,000		9,240	238,980	228,190	119,490	108,700	10,790	- 50	10,740	1,500	3.9	50.0	45.4
4 "	85,000		48,500	412,980	356,990	206,490	150,500	55,990	400	56,390	7,890	11 7	50.0	36.5
5 "	135,000		107,580	648,280	517,840	321,640	196,200	125,440	- 350	125,090	17,510	16.7	50.0	30.5
6 "	195,000													
7 "	225,000													
8 "	245,000													
9 "	255,000													
10 "	260,000													
11 "	265,000													
12 "	270,000													

FIGURE 10

Figure 11 shows a graphic chart giving the 1932 monthly and cumulative profits of the XYZ Manufacturing Company compared with the budget and with the previous year.

This chart is a combination of bar charts, picturing the monthly fluctuations of profit or loss, and line curves, showing the cumulative profit trends throughout the year.

The zero line separates the profit section from the loss section. The bar or block at the left of each monthly section represents the monthly profit or loss for the current year. The bar at the right of each monthly section represents monthly profit or loss for the preceding year. The cross-hatched background in the monthly portion represents the current year's monthly profit budget. The figures supporting the chart are tabulated below the plotting area. The over or under figures for the current year compared with the budget and

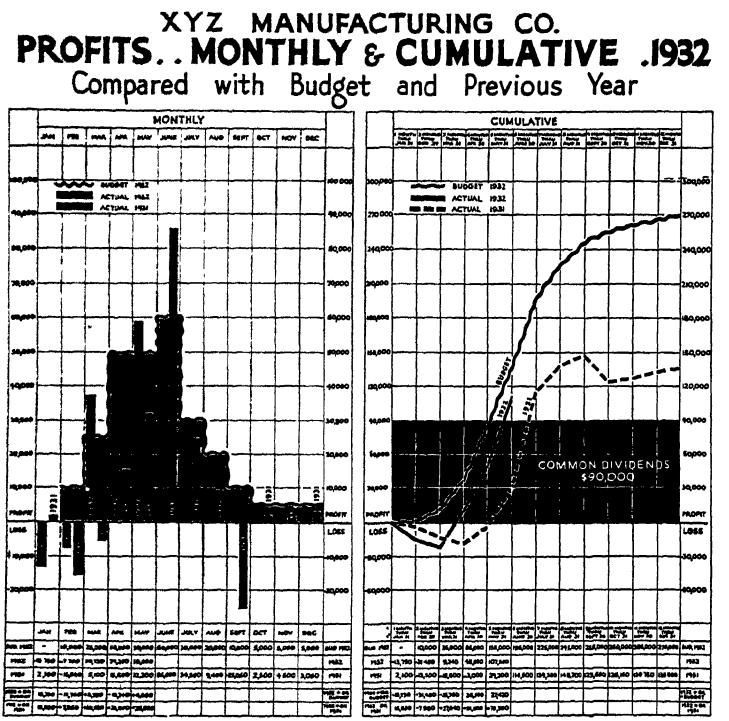


FIGURE 11

last year are also placed on the sheet. For instance, the profit in May, 1932,was $59,080 compared with a budgeted profit of $50,000 and last year's May profit of $32,200. This year's May profit was $9,080 over the budget and $26,880 over last year's May profit.

The various curves in the cumulative section show the trend of this year's profits compared with the budgeted and last year's profits. At the end of the first five months of this fiscal year the cumulative

profit is $107,580, which is $27,420 less than the budget but $78,380 more than last year's profit for the first five months.

The management of the XYZ Manufacturing Company is naturally striving to make profits at least equal to dividend requirements; therefore, the area representing dividend requirements of $90,000 is cross-hatched. Last year the management made dividends at the end of the first six months, while this year, barring misfortune in the balance of the year, dividends were earned at the end of the first five months. However, according to the budget, dividends should have been practically made at the end of the first four months.

Figure 12 shows the 1932 Comparative Balance Sheet of the XYZ Manufacturing Company. The balance sheet should follow the operating statement in the presentation. The primary comparison shows the monthly fluctuations of all the essential financial items, such as current assets, cash, etc. It is very easy to follow down the

XYZ MANUFACTURING CO.
BALANCE SHEET
1932

DATE	CURRENT ASSETS								OTHER ASSETS	PLANT AND EQUIPMENT				DATE
	TOTAL CURRENT ASSETS	CASH	CUST ACCTS RECEIVABLE			INVENTORIES				TOTAL PLANT & EQUIP NET	BUILDING AND EQUIP. BEFORE DEPREC.	ALLOW FOR DEPREC.	LAND	
			GROSS	ALLOW FOR BAD DEBTS	NET	TOTAL	RAW MATERIAL	FINISHED PRODUCT						
DEC.31 '31	$510,800	$115,000	$150,000	- 12,000	$138,000	$257,800	$ 85,000	$172,800	$ 75,000	$800,000	$900,000	$-135,000	$ 50,000	DEC.31 '31
JAN.31 '32	501,570	80,570	110,000	- 12,500	97,500	323,500	151,400	172,100	80,000	795,500	900,000	-154,500	50,000	JAN.31 '32
FEB.29	442,320	40,670	89,000	- 12,300	76,700	324,950	140,950	184,000	85,000	791,000	900,000	-159,000	50,000	FEB.29
MAR.31	652,040	97,290	203,000	- 12,700	190,300	364,450	160,500	203,950	90,000	784,500	900,000	-163,500	50,000	MAR.31
APR.30	818,190	111,340	323,000	- 11,800	311,200	395,650	172,950	222,700	80,000	782,000	900,000	-168,000	50,000	APR.30
MAY 31	879,640	45,290	404,000	- 12,200	391,800	442,550	186,200	256,350	70,000	827,250	950,000	-172,750	50,000	MAY 31
JUNE 30														JUNE 30
JULY 31														JULY 31
AUG. 31														AUG. 31
SEPT. 30														SEPT. 30
OCT. 31														OCT. 31
NOV. 30														NOV. 30
DEC. 31														DEC. 31

DATE	CURRENT LIABILITIES					WORKING CAPITAL CURRENT ASSETS LESS CURRENT LIABIL.	RATIO CURRENT ASSETS TO CURRENT LIABIL.	RESERVES	NET WORTH			DATE
	TOTAL CURRENT LIABIL.	NOTES PAYABLE	ACCOUNTS PAYABLE	ACCRUED STATE & LOCAL TAXES	ACCRUED FEDERAL INCOME TAX				TOTAL	COMMON STOCK	SURPLUS	
DEC.31 '31	$153,000	$ -	$ 80,000	$ 55,000	$ 18,000	$357,800	3.3	$ 80,000	$1,152,800	$1,000,000	$152,800	DEC.31 '31
JAN.31 '32	158,000	-	84,000	56,000	18,000	343,570	3.2	80,000	1,138,070	1,000,000	138,070	JAN.31 '32
FEB.29	107,000	-	32,000	57,000	18,000	335,320	4.1	80,000	1,131,320	1,000,000	131,320	FEB.29
MAR.31	286,000	100,000	109,000	58,000	19,500	345,540	2.3	80,000	1,162,040	1,000,000	162,040	MAR.31
APR.30	398,590	200,000	114,000	59,000	25,590	418,300	2.1	80,000	1,201,300	1,000,000	201,300	APR.30
MAY 31	436,510	200,000	141,000	60,000	35,510	443,130	2.0	80,000	1,260,380	1,000,000	260,380	MAY 31
JUNE 30												JUNE 30
JULY 31												JULY 31
AUG. 31												AUG. 31
SEPT. 30												SEPT. 30
OCT. 31												OCT. 31
NOV. 30												NOV. 30
DEC. 31												DEC. 31

FIGURE 12

vertical columns and thus obtain a quick picture of the changes in financial position.

On such a table only the principal essential items of the balance sheet should be shown, as the purpose of the large tables is to present to the management vital comparisons in condensed form so that the time and energy of the executives will be saved. As soon as possible after the end of the month, the current balance sheet figures are inserted in the table.

Figure 13 shows a Summary of Sales, Production, and Expense for the five months ended May 31, 1932. This table illustrates the standard arrangement of

Budget
Actual This Year
Actual Last Year

XYZ MANUFACTURING CO.

Summary of

SALES, PRODUCTION & EXPENSE

5 MONTHS ENDED MAY 31, 1932

	SALES					PRODUCTION	
	TOTAL (AMOUNT)	PRODUCT "A"		PRODUCT "B"		PRODUCT "A"	PRODUCT "B"
		UNITS	AMOUNT	UNITS	AMOUNT	UNITS	UNITS
Budget 5 Mos. 1932	$840,000	500,000	$750,000	100,000	$90,000	450,000	95,000
Actual 5 Mos 1932	643,280	380,000	570,000	91,600	73,280	355,000	85,000
Actual 5 Mos 1931	620,500	344,000	535,000	85,000	85,500	325,000	80,000
This year over or under (-) Budget	-196,720	-120,000	-180,000	- 8,400	- 16,720	-95,000	-10,000
This year over or under (-) 1931	22,780	36,000	35,000	6,100	- 12,200	30,000	5,000

	EXPENSE AMOUNTS				EXPENSE PER UNIT	
	TOTAL	PRODUCT "A"	PRODUCT "B"		PRODUCT "A"	PRODUCT "B"
Budget 5 Mos 1932	$239,000	$220,000	$19,000		$ 49	.20
Actual 5 Mos 1932	196,200	177,500	18,700		50	22
Actual 5 Mos 1931	198,700	178,700	20,000		55	.25
This Year over or under (-) Budget	-42,800	-42,500	- 300		01	02
This Year over or under (-) 1931	- 2,500	- 1,200	- 1,300		- 05	- 03

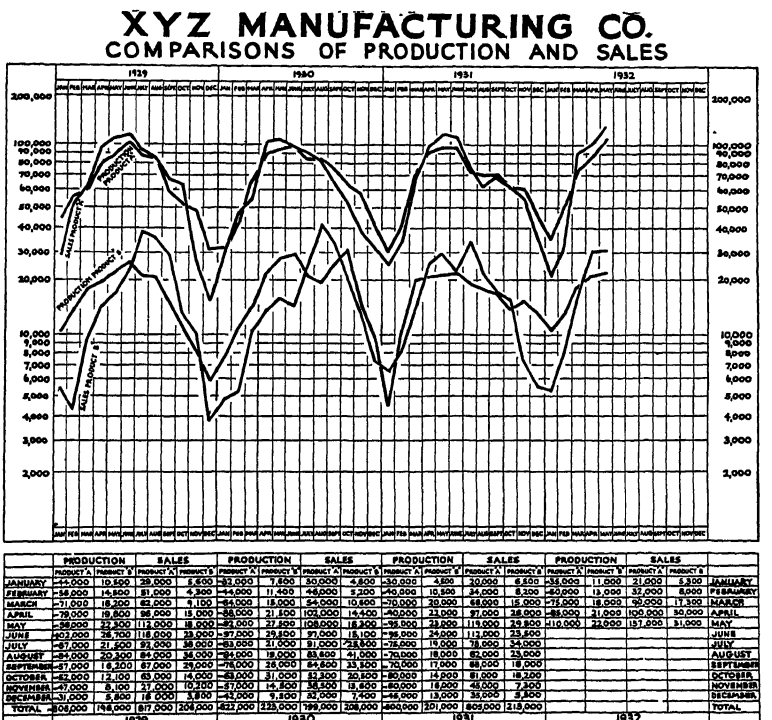
FIGURE 13

It also makes use of the method of showing this year over or under the budget and this year over or under last year. These plus and minus figures make it easy for the individual presenting the table, since he does not have to stop to compute the amount of variation.

This figure shows that for the five months ended May 31, 1932, sales of Product A were 120,000 units under the budget, production of that product was 95,000 units under the budget, but that, as the expense for Product A was $42,500 under the budget, the actual expense per unit for Product A during the five months period, 50c, was only 1c in excess of the budgeted expense per unit.

Figure 14 shows a logarithmic chart giving comparisons of production and sales for approximately three and a half years. The upper two curves show the trend of production and sales of Product A and the lower two curves show the trend of production and sales of Product B.

The curves indicate that the peak of greater sales is usually



	PRODUCTION		SALES		PRODUCTION		SALES		PRODUCTION		SALES		PRODUCTION		SALES		
	PRODUCT A	PRODUCT B	PRODUCT A	PRODUCT B	PRODUCT A	PRODUCT B	PRODUCT A	PRODUCT B	PRODUCT A	PRODUCT B	PRODUCT A	PRODUCT B	PRODUCT A	PRODUCT B	PRODUCT A	PRODUCT B	
JANUARY	+4,000	10,500	28,000	5,500	-42,000	7,500	30,000	4,800	-30,000	4,500	30,000	6,500	-34,000	11,000	21,000	5,500	JANUARY
FEBRUARY	-56,000	14,500	81,000	4,300	-14,000	11,400	46,000	9,200	-10,000	15,500	34,000	8,200	-60,000	13,000	52,000	8,000	FEBRUARY
MARCH	-71,000	18,200	62,000	9,100	-64,000	19,000	54,000	10,600	-70,000	20,000	46,000	15,000	-75,000	18,000	40,000	17,500	MARCH
APRIL	-79,000	19,800	96,000	15,000	-88,000	21,500	103,000	14,400	-40,000	23,000	97,000	28,000	-85,000	21,000	100,000	30,000	APRIL
MAY	-98,000	22,500	112,000	18,000	-92,000	27,500	108,000	18,500	-95,000	25,000	119,000	29,500	-110,000	22,000	137,000	31,000	MAY
JUNE	-103,000	26,700	116,000	23,000	-97,000	29,500	97,000	15,100	-99,000	24,000	113,000	25,500					JUNE
JULY	-87,000	21,500	92,000	28,000	-83,000	31,000	91,000	23,500	-78,000	19,000	78,000	34,000					JULY
AUGUST	-91,000	20,500	84,000	34,000	-84,000	19,000	83,600	41,000	-70,000	18,000	82,000	23,000					AUGUST
SEPTEMBER	-57,000	16,200	67,000	29,000	-76,000	26,000	64,600	33,500	-70,000	17,000	88,000	18,000					SEPTEMBER
OCTOBER	-62,000	12,100	65,000	14,000	-83,000	31,000	52,300	20,500	-80,000	14,000	81,000	18,200					OCTOBER
NOVEMBER	-47,000	18,100	37,000	10,100	-57,000	19,000	38,000	12,600	-50,000	18,000	48,000	7,300					NOVEMBER
DECEMBER	-31,000	5,800	18,000	3,800	-42,000	9,500	32,000	7,400	-46,000	13,000	36,000	5,800					DECEMBER
TOTAL	-808,000	198,000	817,000	204,000	822,000	325,000	799,000	208,000	800,000	201,000	805,000	215,000					TOTAL
	1929				1930				1931				1932				

FIGURE 14

reached around May or June each year with the low point in sales usually coming at the end of the fiscal year, and that production tends to have the same fluctuations as sales. In other words, it is a seasonal business in which the production is not the same each month but tends to become stabilized for any one month in a series of years. This chart shows the need of stabilizing the production of the XYZ Manufacturing Company throughout the year. The figures are shown at the bottom of the chart.

Figure 15 shows the monthly and cumulative trends of the expense in total dollars and per unit of Product A. The line curves in the upper portion of the chart reflect the trend of expenditures in total dollars and the line curves in the lower portion picture the trend of the expense per unit of product A. The chart shows that for every month of the present fiscal year, monthly expense has been below budgeted expense and also under last year's monthly expense, except during the months of March and May, but that because the budgeted

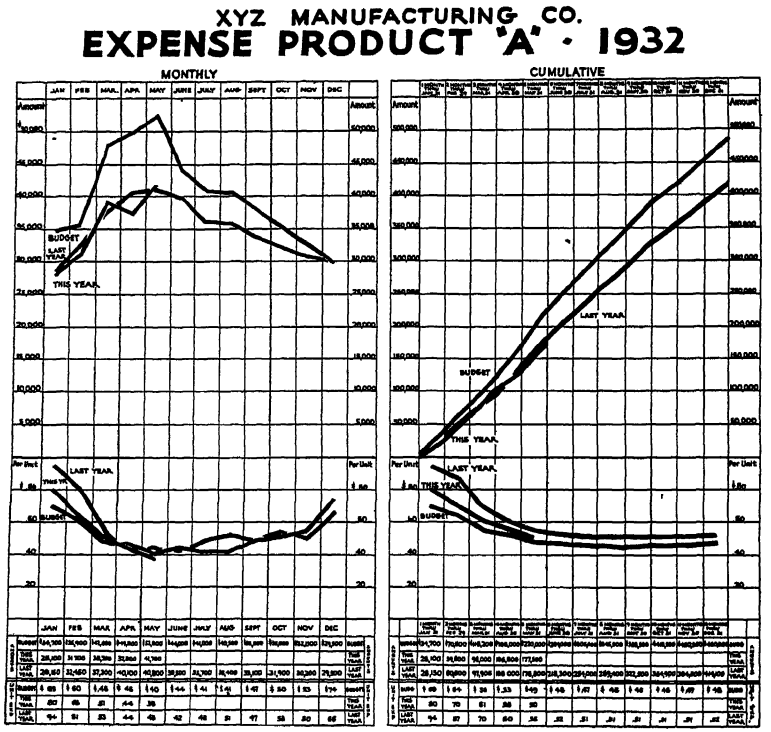


FIGURE 15

volume was not attained, the monthly actual expense per unit has been higher than the budgeted expense per unit except for the last two months of April and May.

The cumulative section shows that this year's actual expense at the end of the first five months was about equal to last year's expense for the same five months, but $42,500 less than the budgeted expense, and that actual expense per unit at the end of the five months' period is still slightly over the budgeted expense per unit.

Oral Presentation of Charts

The oral method of presentation of these charts is, of course, the most effective way to put them across to the executives. The controller, or the accountant who makes the presentation, should organize the work in connection with the completion of the monthly closing and the preparation of the charts so that the figures are available and entered on the charts as quickly as possible after the close of the month. Time is always money, and the cost of slowness is a vital matter.

In presenting the charts orally, it is possible to point out major changes and trends. The person who makes the presentation should, of course, have studied the charts so that his points may be summarized in a few words. He should talk earnestly, and in a manner which indicates that he believes what he is saying. He must, however, avoid technical accounting details, taking care at all times to phrase his comments from the operating point of view. If he is qualified for his position, the executives take for granted that he has handled the mechanics of the accounting procedure properly, in the same manner that the average purchaser of a standard make of automobile is justified in assuming that the various mechanical features of the car have been properly installed. The executives are interested in the results shown by the system of records, not in the way in which the results were secured. The person presenting the results has the responsibility for the final success of the system of records, as the value of the system to the executives is the information which it gives to them, much of which is developed in the oral presentation. This is one reason why the controller should never misrepresent the facts, either consciously through dishonesty or unconsciously through carelessness, in his presentation of reports. The art of presenting records is to place the truth before the executives and operating departmental heads in an orderly manner.

Summary of Expense and Detailed Expense Schedules

In addition to the use of large charts for presentation purposes, a small schedule form, Figure 16, 11 inches high and 24 inches long, which with two folds fits an ordinary 8½″ x 11″ ring binder, making it convenient for use upon the executive's desk, may be used very effectively to follow through on expense. The upper section is arranged to show the monthly figures so that the trend may be

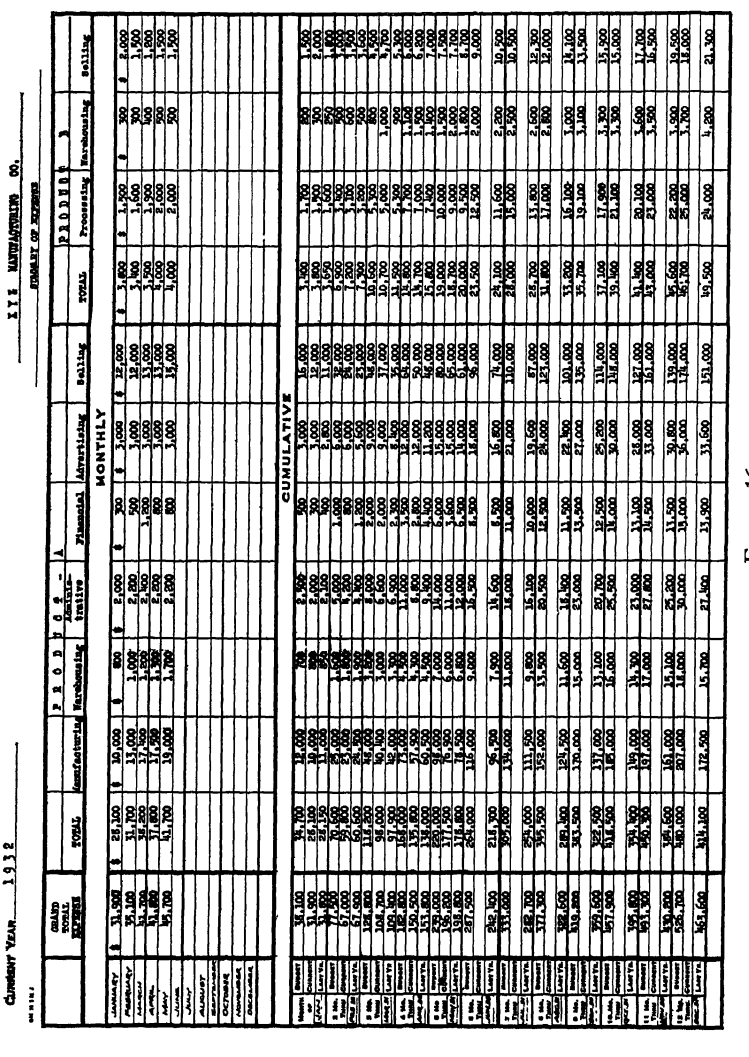


FIGURE 16

followed from month to month. The lower section shows cumulative data and is arranged to facilitate comparison of the expense for each current cumulative period with the current year's budget and last year's actual expense for the corresponding period. The budget and last year's cumulative figures should be entered upon the form in advance so that at any time one may look ahead and see where the company should be at the end of any given period.

The columnar arrangement provides 20 columns for controls or accounts. Both sides of the sheet are printed alike.

The illustration shows a summary of expense for the XYZ Manufacturing Company; first, the total expense of both products, and then the totals for each product. The total expense of Product A is followed by columns showing the cost of the principal operations or types of expense entering into the cost of that product, and the total for Product B is similarly followed by the principal accounts which comprise it.

Each of these principal accounts which go to make up the summary total is supported by a similar sheet showing the detail accounts. For instance the item of "Manufacturing" under Product A corresponds to the total on another sheet headed "Manufacturing Expense —Product A", showing all the detail accounts comprising manufacturing expense, such as Labor, Power, Maintenance, etc. It will thus be seen that these schedules provide a readily accessible record so that expenses may be followed up to the smallest detail account.

The same form may be used to compare cost per unit wherever such comparisons are practical.

Although this form is designed primarily for use in the follow-up of expense, it will serve very effectively as a record of volume statistics, such as production, sales, deliveries, etc., which must be broken down into their component parts for effective analysis. In fact, this form may be used to advantage wherever it is desired to follow monthly trends and to make comparisons of cumulative data.

Business Cycles

So much is being said these days about business cycles that I am presenting a quick picture of the sales effort cycle and the money cycle in business. In the words of Ripley, "Believe it or not," there are effort cycles and money cycles in business.

In the center of the cartoon " 'Biznes' Cycles", Figure 17, is the Management, since the management always should be at the focal

point of all operations of a company. The management represents stimulation and coordination. The sales manager, at the left of the innermanagement circle, under the lash, is pumping inspiration, which at times turns to hot air, to the salesmen, thus stirring them up to effort and starting them on their way. These salesmen are either calling on a prospect or on their way to see a prospect. Apparently all of them are on the way. Their effort results in actual sales, and

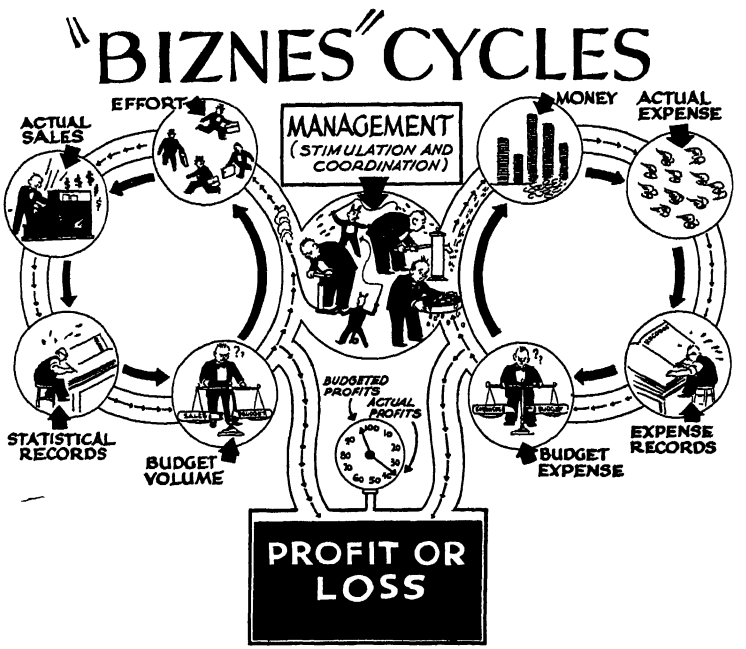


FIGURE 17

the cashier rings up the amounts with a light and cheerful heart while he whistles "Gathering in the Sheaves." These sales must be recorded in the statistical records, so the statistician sweats blood as he burns the midnight oil posting his records. Next the budgeteer-accountant weighs the actual sales volume against the budgeted volume and allows the income to fall into the profit or loss ice box, where it either becomes a frozen asset or liquid capital, and the sales manager then pumps even harder to keep the sales effort cycle going faster.

The controller and the treasurer work as a team in keeping the

expense cycle going. Under lash they pump out money—round coins, so that they may either be stacked up or rolled away. The money takes wings and reflects itself in actual expense, which must be posted to the expense records by the hard-working expense bookkeeper, then weighed against the expense budget by the budgeteer expense accountant, and passed on to the controller who sifts out the savings from the stream of expense and allows them to fall into the Profit or Loss ice box. Then the money cycle starts all over again with greater speed.

At stated times, everyone in the management inner circle takes a look at the profit gauge to see whether or not the actual profits are approaching the budgeted profits. Then the little devils start feverishly cracking their whips again, and thus the cycles in business keep cycling.

Presentation of the Budget

The next seven charts illustrate the presentation of the 1933 budget of the XYZ Manufacturing Company. It is assumed that these charts are ready to present about a month before the end of the fiscal year 1932; in other words, let us assume that it is now December 1, 1932.

The budget of the XYZ Manufacturing Company is based upon a sound sales quota. In this company the territory and not the salesmen is made the measure, because the salesmanager of the company has reasoned out that salesmen may come and go, but the territory is always there.

One of the primary functions of business management is to forecast sales; to do this one must have a knowledge of markets and the methods of getting the products to the customers in the most efficient way. In every business of any size there must be at least one strong intellect studying the company's merchandise and constantly working on the problems of markets and sales.

Figure 18 shows that, after securing estimates from salesmen and using market research, based on studies of the markets and special marketing methods, the XYZ Company has set a sales quota of 1,000,000 units for the principal product, A, compared with 900,000 units sold during the current year, and a quota of 240,000 units for the second, or by-product, B, compared with 220,000 units sold this year. The sales value of Product A for next year is estimated at $1,500,000,—$150,000 greater than this year. The sales value of

Product B for next year is estimated at $192,000 or $16,000 greater than the sales value this year. The total sales value of $1,692,000 for next year is $166,000 greater than the sales value of the current year.

The sales quota of the XYZ Company is set not only in terms of units but also in terms of dollars. Where only dollars are used, the dollar figures tend to unbalance the sales efforts in favor of the quick selling items where the line is a varied one.

SALES QUOTAS BY TERRITORIES

TERRITORY		PRODUCT "A"		PRODUCT "B"		TOTAL
		QUANTITY (UNITS)	VALUE	QUANTITY (UNITS)	VALUE	SALES VALUE
All Territories	BUDGET	1,000,000	$1,500,000	240,000	$192,000	$1,692,000
	1932	900,000	1,350,000	220,000	176,000	1,526,000
Territory No. 1	BUDGET	225,000	337,500	40,000	32,000	369,500
	1932	200,000	300,000	50,000	40,000	340,000
Territory No. 2	BUDGET	150,000	225,000	75,000	60,000	285,000
	1932	160,000	240,000	60,000	48,000	288,000
Territory No. 3	BUDGET	300,000	450,000	15,000	12,000	462,000
	1932	280,000	420,000	15,000	12,000	432,000
ETC.						

FIGURE 18

One of the ills which business is suffering from today may be termed "volumitus"—the attempt to maintain a large volume on a non-profit basis. In these days of falling prices, it is usually difficult to increase the sales volume and at the same time to maintain prices. However, as the XYZ Manufacturing Company is a small concern, which is not an important factor in its line of industry, the management believes the company can increase its sales volume without affecting the market price. In many industries the problem of sales prices is an important one in the preparation of the budget, and the management must decide, in case it cannot obtain a larger volume at

the present sales prices, whether or not it wishes to attempt to secure a larger amount of business at lower prices. Very often a greater profit can be made by concentrating on a smaller selected volume than by attempting to secure a rapid turnover of product at a low price.

The table in Figure 19 shows the production required of the XYZ Manufacturing Company for the year 1933. It is essential that the sales program provide for a well-balanced production program. The sales quota must be translated into work quantities for the factory.

BUDGET 1933
PRODUCTION REQUIRED

	PRODUCT "A" (UNITS)	PRODUCT "B" (UNITS)
Inventory desired at end of year	110,000	20,000
Estimated sales for 1933	1,000,000	240,000
Estimated Inventory at beginning of year	150,000	20,000
Production Required	960,000	240,000
Plant Capacity (Normal)	1,500,000	375,000
Excess Capacity	540,000	135,000
Percentage of Capacity Operated	64%	

FIGURE 19

The XYZ Manufacturing Company estimates that the inventory of Product A at the end of 1933 will be 110,000 units. The estimated sales of Product A for 1933, taken from the sales quota, are 1,000,000 units. It is estimated that the inventory of Product A at the beginning of 1933 will be 150,000 units. Therefore the production required during 1933 is 960,000 units of Product A. The normal plant capacity for Product A is 1,500,000 units; therefore, the excess capacity is 540,000 units or the anticipated percentage of capacity to be operated is 64%.

This means that the plant superintendent of the XYZ Manufacturing Company should make arrangements so that the operating expense is adjusted to a 64% capacity operation schedule.

Figure 20 shows the estimate of material cost for 1933. The inventory, usually representing a large amount of money, is one of the most important factors in the determination of the final profit or loss of the company. Excessive inventories deplete the working capital and are a source of weakness in periods of declining prices when inventory control is especially necessary.

X.Y.Z. Manufacturing Co.

BUDGET 1933

Estimate of Material Cost

	UNIT COST		PRODUCTION		MATERIAL COST	
	BUDGET 1933	1932	BUDGET 1933	1932	BUDGET 1933	1932
TOTAL MATERIALS					$888,000	$879,400
LESS PRODUCT "B"	$.50	$.52	240,000	220,000	120,000	114,400
PRODUCT "A"	.80	.85	960,000	900,000	768,000	765,000

Material Schedule

	COST PER LB.		QUANTITY REQUIRED (LBS)		COST	
	BUDGET 1933	1932	BUDGET 1933	1932	BUDGET 1933	1932
ALL MATERIALS					880,000	879,400
MATERIAL NO.1	$.45	$.50	480,000	450,000	216,000	225,000
MATERIAL NO.2	.80	.90	96,000	90,000	76,800	81,000
MATERIAL NO.3	2.10	2.00	48,000	45,000	100,800	90,000

ETC.

FIGURE 20

The Material Schedule, Figure 20, shows that 480,000 pounds of material No. 1 will be required in 1933 as against the requirement of 450,000 pounds during the current year. The standard cost per pound for material No. 1 next year is placed at 45c or 5c cheaper than the actual cost per pound of material No. 1 this year. Ninety-six

thousand pounds of material No. 2 will be required next year at a standard cost of 80c per pound. It is estimated that the total material cost next year will be $888,000 compared with $879,400 this year.

Then, by transferring the amount of $888,000 to the Estimate of Material Cost, and finding that $120,000 is the estimated material cost of Product B for next year, the difference of $768,000 is secured as the budget material cost of Product A. The budget material cost per unit is then determined for Product B as 50c compared with 52c this year and for Product A as 80c compared with 85c this year.

BUDGET 1933

Recapitulation of Product "A" Expense

CLASSIFICATION	UNIT EXPENSE		AMOUNT	
	1933 BUDGET	1932 ACTUAL	1933 BUDGET	1932 ACTUAL
Total Product Expense	$.45	$.50	$ 438,000	$450,000
Manufacturing	.20	.23	192,000	207,000
Warehousing and Shipping	.02	.02	19,000	18,000
Administration	.03	.03	29,000	27,000
Financial	.01	.01	10,000	9,000
Advertising	.04	.04	38,000	36,000
Selling	.15	.17	150,000	153,000
Production Product "A" (Units)			UNITS 960,000	UNITS 900,000
Sales Product "A" (Units)			1,000,000	900,000

FIGURE 21

Figure 21 shows a recapitulation of Product A expense. As profits these days are more likely to result from lowering costs than from raising selling prices, it is most essential to examine the various cost elements and to adjust anticipated expense to anticipated income. During the year 1933, the XYZ Manufacturing Company proposes to spend for manufacturing expense $192,000 compared with $207,000 during the year 1932. The budgeted manufacturing expense per unit is 20c, which is 3c less than the actual manufacturing expense this

year. Selling expense has been reduced from $153,000 this year to $150,000 in the budget. The budgeted selling expense per unit is 15c compared with an actual selling expense this year of 17c per unit.

Figure 22 shows a recapitulation of Product B expense. Since Product B is a by-product resulting from the manufacture of Product A, it carries only the expenses of processing, warehousing and shipping, and selling. The budgeted expense per unit for Product B is 20c compared with actual expense of 22c for last year.

BUDGET 1933

Recapitulation of Product "B" Expense

ESTIMATED

CLASSIFICATION	UNIT EXPENSE		AMOUNT	
	1933 BUDGET	1932 ACTUAL	1933 BUDGET	1932 ACTUAL
Total Product "B" Expense	$.20	$.22	$ 48,000	$48,500
Processing	.08	.09	19,000	20,000
Warehousing & Shipping	.02	.02	5,000	4,500
Selling	.10	.11	24,000	24,000
Production (Units)			UNITS 240,000	UNITS 220,000
Sales (Units)			240,000	220,000

FIGURE 22

Figure 23 is the Summary Cost of Sales. The budgeted expense per unit of Product A is 45c, the material cost is 80c, so that the total budgeted cost of Product A is $1.25, which is 10c less than the actual cost this year. Total dollars anticipated to be spent for Product A are $1,250,000,—$35,000 more than was spent during the current year 1932. The total budgeted cost of Product B is 70c per unit as compared with 74c this year. The total amount of money which it is anticipated will be spent next year is $1,418,000 compared with $1,377,900 this year.

BUDGET 1933
SUMMARY COST OF SALES

	UNIT COST		TOTAL COST	
	BUDGET 1933	1932	BUDGET 1933	1932
Total Cost			$1,418,000	$1,377,900
Product "A"	$1.25	$1.35	1,250,000	1,215,000
Product "B"	.70	.74	168,000	162,900
Material Cost Total			920,000	879,400
Material Cost Product "A"	.80	.85	800,000	765,000
Material Cost Product "B"	.50	.52	120,000	114,400
Expense Total			498,000	498,500
Expense Product "A"	.45	.50	450,000	450,000
Expense Product "B"	.20	.22	48,000	48,500
Sales Product "A" (units)			UNITS 1,000,000	UNITS 900,000
Sales Product "B" (units)			240,000	220,000

FIGURE 23

Figure 24 shows the estimate of net margins and is the most important table in the presentation of the budget. Profits are the difference between the value of sales and the cost of sales, and the volume of sales affects the profit per unit.

The table shows that it is estimated that the value of 1,000,000 units of sales of Product A will be $1,500,000 and that the cost of these sales will be $1,250,000, which will result in a net profit for Product A of $250,000 or a profit per unit of 25c compared with 15c profit this year. It is estimated that the value of the sales of 240,000 units of Product B budgeted to be made next year will be $192,000 and that the cost of these sales will be $168,000. This results in a profit for Product B of $24,000 or 10c per unit compared with 6c per unit this year.

If this profit per unit is not satisfactory, then one of two things must be done, either (1) the value of the sales must be increased, which is usually difficult to do, or (2) the cost of sales must be decreased. *Expense must be adjusted to income. A company should not expend more money to secure any class of business than that*

business returns in income. If the total estimated profit for next year of $274,000, compared with $148,100 this year, is not satisfactory, a re-analysis of expenses must be made to determine if it is possible to reduce the budgeted expense.

BUDGET 1933

Estimate of Net Margins

		NET MARGIN		COST OF SALES	VALUE OF SALES	SALES (UNITS)
		PER UNIT	AMOUNT			
TOTAL	BUDGET 1933		$274,000	$1,418,000	$1,692,000	
	1932		148,100	1,377,900	1,526,000	
PRODUCT "A"	BUDGET 1933	$.25	250,000	1,250,000	1,500,000	1,000,000
	1932	.15	135,000	1,215,000	1,350,000	900,000
PRODUCT "B"	BUDGET 1933	.10	24,000	168,000	192,000	240,000
	1932	.06	13,100	162,900	176,000	220,000

FIGURE 24

Attitude of Mind

Before you attempt the presentation of current and budgetary reports, it is essential to develop a positive mental attitude. You should act like a real executive. You may not be the president of your company, but you can act like the president. Cultivate the qualities that make men big—high personal standards, loyalty, enthusiasm, courage, sympathy, and willingness to see the other fellow's point of view. When a man has these positive qualities, his associates will have that confidence in him which is the basis of all commercial life.

In building a budget, build the best possible budget, and plan to make each succeeding budget even better. In presenting reports, present them in the best possible way. As in all work, the budgeteer-

accountant should strive to give the best that is in him and to render the most and best service within his power. The pleasure of presenting current and budgetary reports is in the joy and vigor of doing. The call of the age is for intelligent action and the courage to do something different, which demands constantly fresh points of view. Therefore, keep fresh and alert, not sluggish or stale.

The company which employs you does not owe its employees a living, but it does owe them a chance to express themselves and thus to make a better living. Each employee in turn owes his company the energy and knowledge which are his to give. Regardless of one's station in a company, each one should be able to assist in tuning up to the making of profits, which are essential to the success of every business. In this tuning-up process, the budgeteer-accountant has a wonderful opportunity to achieve results which should be most satisfactory to his business and to himself.

CHAIRMAN GREER: Mr. Bullis, I know the entire audience agrees with me that this has been one of the most fascinating and inspiring talks ever presented before this Association. We feel very fortunate in having had you here this morning and in having had the opportunity of listening to this talk.

I want to say, too, that I know this entire audience realizes that behind these talks given by Mr. Margeson, Mr. Vieh, and Mr. Bullis, there has been an immense amount of hard work, and close application to the subject. We have been the beneficiaries here of the good will, the energy and effort of three outstanding men in this discussion of the distribution cost problems. It seems to me that the least we can do is to show our appreciation of these splendid contributions by giving these speakers a rising vote of thanks.

. . . The audience arose and applauded . . .

SESSION IV

THE RESPONSIBILITY OF THE ACCOUNTING DEPARTMENT IN THE ESTABLISHING OF A SOUND FINANCIAL PROGRAM

WEDNESDAY AFTERNOON, JUNE 15, 1932

HOWARD C. GREER, *Chairman*

Charles R. Landrigan has been in the service of the Detroit Edison Company, Detroit, Michigan, for the past twenty years. He started with the company as a stock clerk in the power house and is now assistant controller of that great company. His long and varied experience in the public utility field has made him particularly well qualified to talk on the financial policies of his company.

Payson D. Foster has been connected with the Detroit Edison Company for the past twenty-two years. Prior to that time he was employed by other public utility concerns. Today he holds the position of assistant treasurer of the Detroit Edison Company. He is exceptionally well informed on the financial problems of public utilities and has been instrumental in helping to solve some of these problems in his own company.

George Enfield Frazer was graduated from the University of Iowa and from the University of Wisconsin Law School. He is a member of the American, Wisconsin, Illinois and Chicago Bar Associations and is a Certified Public Accountant of the State of Wisconsin. He was formerly professor of accounting and controller of the University of Illinois; financial advisor to the governments of the states of Illinois and Ohio; assistant director of finance for the United States Government; and a member of the Committee on Financial Administration of the United States Shipping Board Emergency Fleet Corporation. He is now senior partner of the firm of Frazer & Torbet, Certified Public Accountants, Chicago. Mr. Frazer is a member of several professional, scientific and social organizations and is the author of numerous technical papers.

O. P. Decker was graduated from the University of Chicago and is a member of Phi Beta Kappa. He was formerly treasurer of the Wolff Company and was for a time a member of the staff of S. W. Strauss and Company. At the present time he is assistant cashier of the Straus National Bank & Trust Company of Chicago and is a lecturer at Northwestern University. His experience enables him to speak with authority on the subject of the relation of the accountant to the banker.

THE RESPONSIBILITY OF THE ACCOUNTING DEPARTMENT IN THE ESTABLISHING OF A SOUND FINANCIAL PROGRAM

PRESIDENT SANDERS: We are ready to start the fourth of these technical sessions, and it is my duty only to call upon Mr. Greer once more to take the chair this afternoon. He will introduce the speakers and lead the discussion.

Mr. Greer!

CHAIRMAN GREER: I am going to take it for granted that practically all of you were here this morning and that you are well in touch with the progress of this program up to date. You understand the general scheme and purpose, and you understand that this afternoon's session is intended to develop some material on the accountant's responsibilities in connection with the financial function of business, just as this morning we discussed his part in the distribution function.

We want to know, as accountants, what the accountant should be doing to assist those who have charge of the financing of business. This problem, it seems to me, has been given far too little attention and study. It strikes me that financing in American industry is almost always either too easy or too hard. We don't have much balance in our financial activities. We talk about our production being unbalanced and our distribution being unbalanced. Surely our financing has been very sadly unbalanced in recent years.

That is due partly, I think, to the nature of our financial structure, but it is due partly to a lack of recognizing this problem as a scientific problem, one which will yield to scientific analysis. If we view it in the broadest possible terms, I think we may say that the welfare of our society, of our people as a whole, depends on three things: first, what and how much we produce; second, who gets it; third, what is done with it.

The first problem—that of production—occupied us for a long time. We thought it was the only problem. We have come to realize

in recent years that it is not the only problem, and we have laid a great deal of stress on the problem of distribution. We should think of distribution in its broadest sense; that is—who gets the benefit of what we produce?

But there is a third problem which still lies ahead of us. When we have this wealth produced and distributed, what are we going to do with it? Are we going to turn it back into the creation of additional productive facilities? If so, what kind? Are we going to try to consume it as we go along, with the thought that possibly that will lead to an evener flow of benefits to our people? What is our plan?

We are a long way from being able to answer those questions, but we have begun in individual industries and businesses to try to answer the problems of financing for those particular industries.

Outstanding in the field of industries which have done a sound job of financial planning is the public utility industry. When we sought speakers for this program, our minds naturally turned to that industry. We were very fortunate in being able to persuade representatives of a very large public utility company, with headquarters here, to appear before us this afternoon and explain to us something about their methods of financial analysis and control, the construction of their budgets and the use which was made of those budgets in aiding the financing of their enterprises.

I think it is not entirely due to the circumstances under which they operate, that public utility companies generally have been so notably free from financial worries and difficulties in the last few years, and have been so outstandingly successful in taking care of their financial requirements. They have been at this job a long time. Twelve or fifteen years ago, when I was connected with a public utility company, they had in effect a number of procedures for analysis and control which other industries I could mention are only now beginning to reach after. This long experience in sound and efficient management is bearing fruit in the excellent records being made by public utility companies today.

Without further general comment, I am going to introduce the first speaker of the afternoon. When I asked him if he would tell me something which I might tell you about his business record and connections, he provided me with so little information that he made me think of what happened when Mr. E. G. Seubert was elected President of the Standard Oil Company of Indiana two or three years ago. The reporters flocked around him and asked for a story.

They wanted to know something about his background of business experience. He said, "I have worked for the Standard Oil Company ever since I worked at anything."

They asked, "What have you done?"

He said, "I started in a small position and gradually rose to one of greater importance."

They said, "There must have been some high lights in your business career, some outstanding things to which you can point."

He said, "My business career, as I recall it, has simply been a lifetime of plain, hard work."

I have no personal acquaintance with either of these gentlemen who are to speak here this afternoon, but if their own accounts of themselves are to be believed, they have put in a good share of a lifetime in plain, hard work. I think they must be among those rare individuals who have that wonderful knack of minding their own business and minding it well.

It is very gratifying that they are willing to come here and share the benefits of some of their experiences with us.

The first speaker on our program this afternoon, then, is Charles R. Landrigan, Assistant Controller of the Detroit Edison Company, who will talk to us about, "Preparation of a Budget for a Public Utility."

Mr. Landrigan!

PREPARATION OF A BUDGET FOR A PUBLIC UTILITY COMPANY

CHARLES R. LANDRIGAN

Assistant Controller

Detroit Edison Company, Detroit, Mich.

WE hear a great deal about budgets these days, particularly about the budgets of national and civic governmental organizations in their frantic efforts to pull their cash requirements into line with their income from taxes and other sources. Such budgets are frequently little more than political footballs.

Most municipal budgets are handled on much the same plan as that of the City of Detroit. Plans and estimates of cost are prepared annually by individual city departments for the fiscal year. Each

department head in figuring out his requirements, is careful to ask for about fifty per cent more than he thinks he really needs because experience has taught him that budgets are always cut many times before approval. The requirements of all departments are submitted to the City Budget Director who assembles the budget and forwards it to the Mayor. His Honor slices sizable amounts from almost every request, thus deeply impressing the taxpayers with his interest in their welfare, although many of these cuts may be returned to the budget later. Then the Common Council gets its opportunity to do further cutting and often to replace many of those things the Mayor had previously eliminated. So the budget is kicked about among the Mayor, the Council, Politicians, the Press and almost everyone down to the City Hall janitor, until the time comes when it is absolutely necessary to balance the budget. Then each department is given its appropriation for the fiscal year and this constitutes its annual budget. This type of budget is absolutely rigid. Each department is given a fixed appropriation for the entire year and there can be no deviation without very special arrangements, because the tax rolls are prepared on the basis of the approved budget.

Then we also frequently hear about household and personal budgets. A householder more or less carefully prepares a budget covering his family income and expenditures. He sets up a rather stiff bogey for himself and says, "Now I am all set to save a lot of money. Things are going to run smoothly and my money is going to stretch farther because I'm running my household affairs on the budget basis." Then this man promptly forgets all about his budget until some day his money runs out and he blames the budget for it.

The budget system in use by The Detroit Edison Company, or any budgetary control system of modern business, is not at all comparable to the systems employed by governmental bodies, nor can it be compared with the latent household budget.

Do you know what a late edition of Webster's Dictionary gives as a definition of a budget? I was very much surprised, when I looked it up, to find that it defines a budget as "An annual financial statement for the ensuing year of the British House of Commons." Such a definition comes a long way from describing our budget system.

In our Company we would define a budget as "A carefully detailed plan of the future covering all phases of the operation of the Company, together with a definite method of controlling that plan." The control is just as important as the plan. A horse or an automobile is

useless without someone to direct its power. A budget is likewise wasted effort without proper control.

Budgeting is really accounting reversed. Accounting starts where the budget ends. Of course, budgeting is not quite the rigid science that accounting is to business. It is not, and never can be, as accurate as accounting. God never intended us to foresee the future but the budget is our best guess, continually revised and extended into the future, and the accuracy of many of these intelligent guesses is almost beyond belief.

It is inconceivable that any company, large or small, would try to get along without a budget or some similar method of planning for the future. Some time ago I was about to cross a crowded street over here at Michigan and Griswold Streets. Just ahead of me was one of these Gypsy fortune tellers. She was only about four and a half feet tall and almost as wide as she was high. She was dressed in the usual gay colors and had one of those old-fashioned grandmother shawls over her head. She started to cross the street ahead of me and after she was well away from the curb she looked up the street and saw a couple of automobiles approaching rather rapidly. This sight made her very panicky and she pulled her shawl right down over her face and started to run across the street and ran smack into the side of a street car. She was knocked down but luckily was not hurt badly. That is exactly what some companies do when trouble comes their way. They shut their eyes and hope that everything will be all right just at the time when they should be examining the future with the utmost care.

Of course most companies do have some sort of a budget system whether they dignify it by that name or not. The budget system of a real small company may only consist of plans carried around in the manager's head. If he makes any mental plans for the future of his company or jots his thoughts down on the back of an old envelope, these may serve his purpose equally as well as an elaborate budget system serves a large corporation. However, he would probably find it a big help if he were to put his plans on paper in fairly good shape and keep them up to date.

The Detroit Edison Company is a rather large company, even for a public utility. We serve more than 500,000 customers and our business extends over a territory of 4,600 square miles. Our total assets are approximately $315,000,000 and the value of our property amounts to about $270,000,000. You can imagine that we have a

great many variables which would make accurate planning for the future extremely desirable and useful.

Until last year, there was no year in the company's history in which our gross business did not exceed that of the previous year. Even during the post-war slump of 1920, our annual volume of sales was greater than 1919. This 1920 depression was really the cause behind the institution of our present budgetary control system. Prior to that time we prepared an annual budget just to get a rough idea of what to expect and then we put it on file and usually forgot all about it, just like Mr. Average Householder with his budget.

During the World War we were not allowed to add any plant capacity, in spite of the fact that demands for energy grew rapidly. The Government would not permit us to buy any additional machinery. When the war ended, we started to build additional capacity with all possible speed in an endeavor to catch up with the accelerating growth in demand for our power. You probably remember how suddenly the depression of 1920 struck the country. The bottom just about dropped out of business almost overnight. Our load dropped about 30% and, of course, our revenue went down with it. We were in the midst of an $18,000,000 construction program and were faced with the necessity of stopping as much of it as possible. In the face of this sudden curtailment of all business, manufacturers were loath to cancel any orders they had on their books and the borrowing of money was almost impossible, except at prohibitive rates of interest.

All departments in our company got busy at that time in an endeavor to get an accurate picture of exactly where we stood, particularly with this large construction program. I can remember that we worked day and night trying to decide what work we actually had to go ahead with, what jobs we could afford to stop without paying excessive premiums to manufacturers for the privilege of stopping orders we had placed, and the matter of financing, particularly in regard to scheduling commitments, was a particular source of worry at that time. Several months elapsed before we actually had everything straightened out and by that time the emergency had practically cured itself. In the end we really spent all of the $18,000,000 anyhow. Our management could see from that hectic experience that something was lacking in our set-up and our controller was directed to institute a real budgetary control system that would function in good times as well as when business conditions were bad.

We started our control system with the construction budget only, because of the large variations in construction requirements and the difficulty of watching and controlling this class of work. After the construction budget was functioning satisfactorily, we extended the budget system to include all operation and maintenance of the company, materials and supplies and even to cash. We therefore now budget not only money but materials and men as well.

Our budget system has worked so well that we often wonder how we ever got along without it. You are probably wondering how our system is functioning in the present crisis and that is a natural question. I must say that this depression has given us a real opportunity to test our budget practices that were built up in the fair-weather days since 1920 and the system has worked so well in comparison with the difficulties encountered during the post-war depression that we cannot praise the budget too highly. Our budgetary control system has helped us to easily adjust ourselves to the drastic changes in economic conditions. Of course all the budgets in the world cannot help us to foresee a slump. Neither can they prevent a depression.

I remember a story I once heard of a half-breed Indian out in the West, who found oil on his property and suddenly became very rich. About the first thing the Indian did was to buy a high-powered automobile and he told the salesman that he wanted this particular machine in preference to other high-priced cars because of the good headlights it had on it. He explained that he lived out in the country and liked to go into town at night and so he wanted headlights that were good enough to let him drive as fast as he liked.

About a week after the Indian bought his new car he came to the salesman and said he wanted another car just like the one he had previously purchased. The salesman was a little nonplused and wanted to know why the Indian wanted another car, so the Indian told him: "Well, you know I come to town often at night. I drink plenty fire-water in town. Then I drive car home. Other night I come to town. On way back I see wagon with no lights on her. I quick turn out to one side. O.K. Go by wagon all right with my good headlights. Next night I see same wagon and I got by her fine. Last night I have plenty fire-water in town. Go home late and she's plenty dark. That darn wagon she's ahead of me again so I quick turn out and that's why I want new car. That darn wagon she's no wagon at all. She's a bridge."

So no budget can prevent a slump any more than the Indian's good headlights could keep him from turning out for a wagon that proved to be a bridge. The budget will act as headlights to show you the road ahead but headlights cannot keep you out of the ditch.

In the fall of 1929, when we prepared the construction budget for the calendar year of 1930, we laid out a program calling for a capital expenditure of $30,000,000. When business conditions started to look bad we sliced that down to $21,000,000. Cutting off that $9,000,000 was a comparatively easy process with the budget to guide us. We had the entire up-to-date plan always in front of us and we could change it at will and quickly see what effect each revision meant to the program.

Last year it looked as though business might pick up somewhat so we planned a construction program of $15,000,000, but later reduced it to $10,500,000. This year we were still a little optimistic and we started out to add $9,000,000 worth of buildings, generators and lines but we have since curtailed this program to about $7,000,000. We have experienced almost no difficulty in effecting these changes in plans under the budget system. The budget has given us order instead of chaos.

In the past year we also trimmed our materials and supplies account by about $1,000,000, which is nearly 25%. This was not a particularly easy task but our budget system made it much easier than it had ever been before budget control had been in effect. We saved another $1,000,000 last year in the operation and maintenance of the company without cutting wages or curtailing the number of employees.

This year we expect to cut another half million dollars from the cost of operating the company without laying off employees, and this in spite of large increases in taxes and freight rates. Freight and taxes are large items with our company. Twelve cents out of every dollar of gross revenue goes for taxes and we use 1,250,000 tons of coal a year. Freight on this amount of coal is a sizable figure each year. Our budget system is the medium through which most of these economies are effected and controlled.

We really have four separate budgets. We have the construction budget, which covers all capital expenditures and major renewals and replacements of property; the operating budget, which includes all costs of operation and maintenance of the system; the control of materials and supplies; and finally we have the cash budget which is really a combination of all the other budgets reduced to a cash basis.

As a general, long-distance picture of the future we annually prepare a ten-year estimate covering all resources and requirements expected during the following decade. Of course, our vision is very limited for much of this period, but such a long-term estimate is really of more value than you might imagine. It at least keeps us thinking about the future, which is one of the first requisites of good budgeting.

Sometimes we also prepare budgets for periods of a few years for some special purpose, but ordinarily our budgets are made to cover the calendar year. The construction budget is really a continuous budget, however, with an annual housecleaning period which cuts the program into calendar years so as to conform to our accounting records and annual reports.

Preparation of the construction budget is usually started in October for the ensuing year. Each department prepares its own portion of the budget with the assistance of the budget division. The departmental superintendents usually split their work among various foremen and these foremen must prepare their own detailed estimates of cash requirements for each proposed job. The fact that those directly responsible for doing the work are required to prepare their own estimates is in itself a natural limitation of expenditures because a foreman will always budget for economical operation and then do his very best to live up to it. Estimating and watching job costs adds a game element to the employee's everyday toil and spurs him on to greater effort and keener interest in his work.

When the various departments have completed their preliminary budget requests, these requests are turned into the budget division of the company to be assembled and consolidated into a unified picture of the work the various departments would like to do for the ensuing year. Such a consolidation consists largely of bringing the jobs of the several departments together into what we call projects. There may be work for five or six departments involved in a single project. For instance:—If we contemplate the construction of a new substation, that would be a project. In the first place it might be necessary for the purchasing agent to buy the site; one part of our construction force would put up the building; another crew would install the electrical equipment; the underground lines department would have to build transmission lines to the new substation from a power house, or other power source; the overhead lines department would probably build most of the lines for the distribution of the current from the new substation to the consumers. So all the work of the many depart-

ments in connection with a project of this kind would be brought together on a single sheet showing a reasonable amount of detail of the work involved together with estimates of cash requirements, proposed time schedules for doing the work, and adequate reasons to justify doing the work.

When all of these proposed projects are assembled, those jobs already under way which will hang over to the following year are added to give a complete picture and this preliminary budget is presented to the general manager for his approval. That portion of the items which are approved constitutes the construction budget for the ensuing year. However, this budget is exceedingly flexible. Items may be added, removed or revised at any time throughout the year, with the approval of the general manager, and the annual fall round-up is more in the nature of a thorough housecleaning.

After the budget has been approved, copies are given to the various departments for their information and guidance. The management knows that work and expenditures called for in the budget will be carried out exactly as prescribed in the budget or else any deviations from the approved plan will promptly be reported by the budget division. On the other hand, department heads know well in advance exactly what the management wants them to do and each department's work is carefully scheduled to fit in with plans of every other department.

The budget in itself may be assumed as an approved plan of procedure but its approval is not quite the final authority to proceed with actual construction work on any project. The management reserves the right to reconsider each job prior to the time it is actually started, although preliminary drafting and engineering work may proceed on budget authorization alone. Therefore, when a department is ready to proceed with the work on any project, or wishes to order equipment, it prepares a work order request covering its share of the project. This request is sent to the accounting department where it is assigned a work order number and it is then forwarded to the budget division. It is checked against the approved budget and all information that may be of assistance to the controller and the general manager in approving, or disapproving, the request is noted on the work order by the budget division. The request is then passed on to the controller and the general manager for their consideration. If approved, the request becomes a bona fide work order and the department may proceed with the job. Any important changes in the

cost of a job must also be presented for approval just as soon as such changes become known.

All jobs are watched very closely by the budget division. Actual expenditures by individual jobs are regularly reported to the budget division by the pay roll and accounting departments. In addition to this check on progress of the work, the budget division makes frequent observations in the field. We find that foremen usually know, almost to the dollar, how much they have already spent on their job and what will be required to complete it. I believe that such departmental interest in costs is one of the most valuable results of our budget system.

One of the most necessary phases of satisfactory budgeting is a background of good accounting. Without a good accounting department to show us what has happened we would be pretty much at a loss. There is not much fun or progress in target practice unless you know where your shots are landing.

Our budget covering the operation and maintenance of the company is prepared in much the same manner as the construction budget. The standard classification of accounts is used as a basis to show the detail of estimates and expenditures. The accounts are so arranged that not more than one department can make charges directly to a single account. This enables the budget division to definitely fix the responsibility for every dollar that is spent. In general, the budget approval is sufficient authority for departments to proceed with operating and maintenance work. The only exception is that single jobs which are expected to cost $5,000 or more require additional work order approval just as in the case of all construction work.

A reasonable amount of variation in expenditures is allowed as compared with estimates of cost as submitted. We wouldn't hang a department head for spending $1,100 on a job that he said was going to cost $1,000, but if he proceeded to spend $1,500 or $2,000, without ample notice and previous approval, then he would certainly be called upon for an explanation and possible censure.

The budget system is entirely flexible from the top down, but not from the bottom up. The management may direct any changes in the program at any time and the budget division, acting as the management's agent, will see that such changes are carried out. However, once certain plans are approved, the department heads must carry out the program exactly as approved. No deviations are allowed without official sanction.

Of course, we do not permit the tail to wag the dog. In other

words, we do not allow the budget system to run the company. It is a useful tool in the management of our business and our company is not at all like the man who had appendicitis and deferred his operation until the following month because there was no money in his current month's budget to provide for it. The man died before his budget was prepared to handle his case. Any emergency in our company is handled promptly without regard for budget procedure. Immediately afterwards, however, the department head assembles the facts and presents them to the management so as to give the officials a picture of the effect of the emergency on our engineering plans and financial position.

In the case of materials and supplies in stock we assume that new purchases equal the withdrawals from stock and we only actually budget the expected variations in the stores account. In general, the stores department controls its own stock of supplies for ordinary use, but any unusual order is always referred to the budget division for approval before making any commitment.

A combination of the construction and operating budgets and the variations in the stock account, all reduced to an exact cash basis and accurately timed, gives us a definite picture of all future cash requirements. To this picture we add an estimate of our expected revenue, worked up in detail by various classes of business, and the result is a cash budget.

At least once a month the budget division prepares a statement of all resources and requirements for the ensuing six months, or for a longer period, if necessary. This statement shows all cash requirements and estimated revenue detailed by months and also gives the resultant cash balance at the end of each month. The current month is similarly split to show financial requirements, revenue and the expected cash balances by days. These estimates of resources and requirements and cash balances are extremely valuable to our treasurer, and Colonel Foster, who is assistant treasurer of the company, is going to tell you just how he makes use of them.

In conclusion, let me say that we are enthusiastic in our praise of the budgetary control system. It gives us a definite engineering, operating and financial program laid out far enough in advance to allow leisurely consideration of the plans and prevent confusion. The budget, if properly applied, promotes order and systematic planning and is a helpful servant in many ways.

CHAIRMAN GREER: Thank you, Mr. Landrigan. It seems to me this paper illustrates the point that I tried to make in my opening remarks, namely, that the future of American industry depends to a great extent not on exploitation and promotion and haphazard development, but on careful, methodical, systematic planning of operating results, planning them in financial terms, expressing those plans so that they are subject to measurement and check and control. That is the type of thing that the utilities have done so remarkably well. I think we are fortunate to have had the opportunity to hear exactly how those plans have been worked out in this great public utility company here.

Plans are interesting, of course, but their real value is proved by how well they work, how much they actually do assist the people for whom they are intended. I think we are all accustomed to hear accountants get up and tell how good certain plans are, but it is a little more convincing to get that information from the man who makes use of the materials.

We are going to hear this afternoon from another man from the Detroit Edison Company, who will explain how their budget assists in the financing of that vast enterprise.

I am pleased to introduce to you now, Payson D. Foster, the Assistant Treasurer of the Detroit Edison Company, who, like Mr. Landrigan, has spent a good many years in the public utility industry and is thoroughly conversant with all of its financial problems.

Mr. Foster!

THE BUDGET AS AN AID TO PUBLIC UTILITY FINANCING

PAYSON D. FOSTER

Assistant Treasurer

The Detroit Edison Company, Detroit, Mich.

MR. LANDRIGAN has outlined to you the budget. I wish to say, in the beginning, that the treasury department could not function efficiently without this budget. We had a haphazard budget, which was more or less a guess, up until 1920, and as Mr. Landrigan explained, we found ourselves in very deep water and prepared to swim out, and we did.

Just so you may have a little better idea of the size of the company and its history, I will give you a few statements.

The Detroit Edison Company was incorporated under the laws of the state of New York in 1907. We serve Detroit and the territory within a radius of sixty miles with light and power, and we also furnish gas for Port Huron and the surrounding towns.

We have several subsidiary companies, most of them, however, inactive. They are companies that we took in from time to time. However, we have two active subsidiaries, the Huron Farms Company, which controls our farm lands and real estate not in use for electrical purposes, and the King Harlan Company, our own mining company, that furnishes about 20 per cent of our coal. These subsidiaries are all owned outright by the Detroit Edison Company with no outstanding bonds.

We are an independent corporation. We are not controlled by any group or groups, and consequently, when we require funds, we have to make the necessary arrangements. There isn't any Santa Claus to fall back on.

Within our territory we have 450,000 meters, and our employees number about 7500. We have $127,000,000 of 8 per cent common stock and $129,000,000 of 4½ and 5 per cent general refunding bonds. We have a very clean-cut financial structure.

It may be of interest to you to realize that some utilities and other industries are in difficulties these days due to having sold stock to customers and employees on more or less a forced sale plan. In the Edison Company, we did sell stock to our customers and employees between 1921 and 1926 on a monthly installment plan, but when the price of our common stock (and we have no preferred stock) reached 140, we did not consider the returns warranted further sales, and we discontinued. As you very well know, many utilities continued to sell, awarding prizes and premiums and so forth, and they are paying for it today.

I shall recite a few instances when the budget meant a great deal to the treasury department of our company.

As you all know, at the beginning of every year or when a new line of credit is established, we must furnish our bankers with a financial statement. Due to the figures prepared by our budget department and submitted to us, we are able at that time or any time to notify our bankers exactly when we will require funds, for what length of time, and the amount. This is very helpful.

There was a time, a few years ago, when a line of credit was extended almost automatically around the first of the year, without a request. As you know, the bankers are even getting down to good business methods these days, or at least trying to do so. This last year, particularly, they were very anxious to know what our requirements would be, and in some instances they asked if it would be agreeable to us if they reduced our line of credit, knowing that we did not require and would not require, during this calendar year, even 50 per cent of our normal line. We were glad to accommodate the bankers. They could go to their directors then and say, "This company will not require funds this year," and it gave them an opportunity to place lines elsewhere.

We are pointing out, of course, where the budget department assists us. Once in a while we put one over on the budget department. About eighteen months ago the market was ripe, and we sold $50,000,000 of 4½ per cent bonds and retired an equal amount of 5's and 6's. The budget department didn't have much time to figure on that, but we saved about $375,000 interest charges on the deal. So, as Mr. Landrigan has explained, we have a budget, but there are instances where we do things that upset it, sometimes one way and sometimes another.

Mr. Landrigan has explained to you that they prepare for us a resources and requirements statement for the year. We can look down through that and at a glance tell what funds are going to be required, whether or not our line of credit at the bank will be sufficient to meet our short-term loans, and if not, we will have to sell securities. It has always been our policy never to reach our maximum line of credit with the banks, but to dispose of our securities when the market is right, retire our loans, and then invest the surplus funds.

A few years ago, as you know, it was a very easy matter to place a few million dollars at call, netting us 8 and sometimes 10 per cent. Those days are gone. I hope they never come back.

From our estimated cash balance report, covering a period of six months, we were able to tell exactly when we would have surplus funds and the length of time that those funds would be available for investment. Today, gentlemen, it is very important that we take advantage of that fact because, as you know, the rate of interest on the average daily balance is very low, but with 60-day, 90-day or six months' loans, to trust companies and so forth, we get a much higher rate of interest. That is one of the reasons we are saving money over

previous years. We are taking advantage of everything of that kind, and it is only because we have the budget and have these control curves and estimates that we are able to do so.

I mentioned a short time ago that we rather upset the budget temporarily by financing that saved us a considerable amount. This morning I had occasion to release a payment to an insurance company for $125,000 that was scheduled for the 25th of this month. We paid it ten days in advance. We had the surplus funds and it just temporarily makes a little jog in the curves. We will even off again on the 25th. Little things like that come up, but by looking ahead, we are able to meet any conditions that arise.

In looking through our estimated cash balances for the next six months, we find a few large payments, but they are very small compared with what they were when we had a $30,000,000 per year construction program. Here in the month of June, I find a federal income tax payment; and as major items, payments to the General Electric, Westinghouse, and the $125,000 that I told you of, the insurance premium. On the first of July, I find an item of $250,000, interest on mortgage bonds. On the 15th there is a dividend of $2,500,000. In the latter part of the month we will pay to the city of Detroit about $1,500,000 in taxes. In order to do that, we have some invested funds that mature on the 25th of July. We found a few months ago those funds were available for 90 days, and we were able to invest them at 3½%. They fall due just in time to meet the taxes.

In looking over to the first of August, we find another item of $1,625,000 interest on bonds. Every day during the month of August we pay taxes to the municipalities in this territory. The total is somewhere over $500,000.

That is the way it goes, gentlemen, on down through, right up to the end of the year. But with the budget estimates as guides we are able to plan in advance and meet all financial requirements.

Getting down to the daily cash statement, I might say that our disbursements run about $5,000,000 a month, and the receipts are equal in amount. A chart shows the aggregate cash balances. The next sheet we consider shows current receipts. Of the $4,500,000 for the month, about $3,500,000 is collected in the city of Detroit, and $1,000,000 out in our districts.

I might say, on our estimate for the month of May, the control of the budget department was off just $55,000 on a little over $5,000,000 estimated. We have always found the budgets very reliable.

We have our disbursements for materials, as Mr. Landrigan told you, information coming from the purchasing department. He has also spoken to you with reference to the coal, which is a very large item.

We have about 7200 employees and naturally we have a labor item of very close to $1,200,000 per month. Then we have the large scheduled payments, like interest, taxes, bonds, and so forth.

I might say we are still continuing to sell stock to our employees on the installment plan, and at the present time our employees are paying for $1,000,000 in stock. Of course, money is going and coming on that.

All of those items taken together give us our aggregate financial budget of somewhere around $5,000,000 per month.

Mr. Landrigan has spoken to you with reference to curtailing the construction program. Two years ago, when we reduced our program, one of the major items was the reconstruction of one of our plants, and that was taken in hand by the budget bureau and the construction bureau, and through the purchasing agent certain contracts were cancelled and the treasury department was notified immediately.

I recall very well one item for turbines of $1,500,000 where contracts had been placed. It was in our budget for 1930 disbursements, but we were able to cancel that contract and revise our needs to that extent. There were other small contracts that we had to pay or pay interest upon. The budget department is so very thorough and the cooperation is so close, that everything that takes place within the organization is immediately transmitted to the treasury department so that we can take advantage of the saving either by investing our funds or by permanent financing.

The motto of our company has always been, "service to our customer, and within our company, cooperation between departments." That, I think, has been the reason for the success of our company. We are very proud of our company, and if at any time we can be of any service to you gentlemen individually, we will be very happy to do so.

CHAIRMAN GREER: Thank you, Mr. Foster. I think it goes almost without saying that Mr. Foster and Mr. Landrigan have been of a great deal of service to us this afternoon in giving us this

clear-cut picture of how a budget plan works in controlling the financial operations of a business.

If we compare this type of budget construction, this thoughtful, careful, painstaking plotting of receipts and disbursements, with the haphazard type of financing which has prevailed in many of our rather large industrial organizations, we may, as I suggested before, get something of a clew to the success which many public utilities have had in poor times as well as in good.

This program, as has been suggested to you a number of times, is set with an eye on the future. We are trying to find out what the future holds for the accountant. These gentlemen have been telling you something about what is being done in one company. I think that is an indication of what will be done in the future in many other companies.

When we undertook to obtain speakers for this program, we naturally thought that we ought to obtain some of those men who have made an outstanding record in forecasting the future of accounting development, men who always have the forward-looking point of view. The next speaker on the program probably exemplifies that forward-looking point of view better than almost anyone else in the accounting profession. He has not spoken before this audience in recent years, but from time to time in the past I know that he has contributed to the conventions of the National Association of Cost Accountants a great deal that has been constructive and helpful. I know that on every occasion I have listened to him speak he has done a great deal to stimulate my thinking, to turn my ideas into new channels, to suggest possibilities which have not yet been touched.

As most of you know him well by reputation, if not by personal acquaintance, I will pause for only a moment to mention something of what he has done. He has been an adviser to state and federal governments. He has served on the faculty of some of our large universities. He has been a controller of one of them, the general auditor of one of our large merchandising organizations, and for a number of years has been outstanding in the field of business counsel and guidance along accounting and organization lines.

He is going to speak to us this afternoon on what he believes to be the task of the accountant of the future in this problem of control of financial operations. I am pleased to be able to introduce to you, George E. Frazer, Senior Partner of the firm of Frazer & Torbet, Certified Public Accountants of Chicago.

THE USE OF ACCOUNTING INFORMATION IN FINANCIAL PLANNING

GEORGE E. FRAZER

C. P. A.

Frazer and Torbet, Certified Public Accountants, Chicago, Ill.

AS every school boy knows, Julius Caesar boldly divided all Gaul into three parts. Your program committee has divided the tremendous subject of financial management into three parts for our consideration this afternoon. Recently in the deliberations of the Congress, Representative La Guardia stated that they had balanced the budget with a vengeance. Your program committee has similarly operated on their Gaul. Your speakers, therefore, stand, like the boy on the burning deck, doing what they can—"theirs not to reason why; theirs but to do and die." At any rate, you must not accuse me of having the temerity to even attempt any adequate discussion this afternoon, in a brief half hour's address, of the whole realm of the relations of the accounting department to financial planning.

For, at the beginning, we must recognize the fact that financial planning in any business or industry covers the whole ground of general management. It is only for convenience in organization that we can designate certain officers as functional officers. The business executive who has to do with financial plans must first of all have to do with all the plans. The accounts that the financial planner needs are all the accounts, all the reports, all the analyses. The real financial executive in any business is its chief executive. You men know yourselves from your own experience that when a vice president in charge of sales, for example, is elected president, you can take it for granted that he will spend the first year in a vigorous, if not in a wild attempt, to learn the details of the bookkeeping system of his company.

So that we may hold our subject in bounds, I suggest that we consider this afternoon only four of the principal duties of the executive charged with financial planning. Let us select four illustrative duties:

(1.) Planning the investment in fixed assets.
(2.) Administration of fixed charges.
(3.) Establishment of the budget of cash requirements.
(4.) Control over deferred charges.

These four subjects are selected because this is a meeting of cost accountants and because each of these subjects is related to the daily work of cost-finding.

Twenty years ago when I attempted to teach cost accounting, the only consideration given by cost accountants to the investment in fixed assets was in the establishment of depreciation reserves and the treatment of accruals to depreciation reserves as part of shop costs. During the last twenty years all of us have advanced our horizons in this matter. In some of our principal industries, such as the railroads and the public utilities, we have learned that the nature, character, and amount of investment in fixed assets is in itself the principal factor in the cost of the product. In many manufacturing industries, as prices decline there has come a sharp realization of the fact that the investment in fixed assets is the principal contributory factor of production cost. For example, there are many paper mills today where the investment in the mill is in itself the principal criterion as to whether or not competitive costs can be obtained.

Elementary planning of the investment in fixed assets requires an estimate of the capital charges arising from the investment as compared with the productive use of the investment. The investment of $100,000.00 in sand and gravel handling equipment, for example, cannot be scientifically made without a comparison of the continuing costs of that investment as against the economies that are expected to accrue. Of course, the $100,000.00 represents a capital charge. If the money is to be obtained as part of the proceeds of a bond issue, the financial executive can definitely state the annual cost of the money over the life of the investment. This annual cost will not only include the interest to be paid on the offsetting bonds, but also a proper provision for the amortization of bond discounts and premiums over the life of the bond issue. If the $100,000.00 is capital acquired as part of the proceeds of an issue of preferred stock, a different computation is required. Nevertheless, consideration must be given to the preferred dividend rate and to the sinking fund requirements under which the preferred stock is outstanding. Even if the $100,000.00 so invested is taken from the proceeds of the sale of common stock, or is an investment of earned surplus, nevertheless the $100,000.00 is entitled to a return and that return is part of the cost of making the investment and of continuing the investment during its life. Nor do the financial costs stop there. When the $100,000.00 is invested in equipment the process of depreciation and obsolescence starts at

once and must be provided for by an annual rate of depreciation. Then, too, the new equipment adds to the tax burden and also to the cost in insurance premiums. Any investment in fixed assets, therefore, should be considered in the light of a careful estimate of the annual recurring charge for:

(a.) Interest or other financial services.
(b.) Depreciation.
(c.) Taxes.
(d.) Insurance.

Certainly cost accountants should not stop there, but should realize that an investment of any kind requires supervision and that means overhead expense.

In order that these annual costs may be dramatized I found it useful when I was general auditor of a mail order house some 15 years ago to think of the investment in fixed assets as a "landlord account." The point of view was taken that the land, buildings and equipment were not owned by the operating business but were owned by the stockholders and that the stockholders were entitled to a return on their investment in land, buildings and equipment under much the same conditions as a landlord would be entitled to a rental charge. Therefore, I boldly set up a landlord account and charged the operations of the business currently with an amount sufficient to cover the financial services, depreciation, taxes, insurance, and supervisory overhead. This had the salutary effect of informing the operating officials of the costs that they had to meet so far as the investment in fixed assets was concerned.

But, of course, financial planning goes further than to estimate recurring costs. That is not a plan but a statistical estimate. The planning comes when the estimate of costs is balanced by an estimate of savings, economies or values arising from productive use. For example, if a public utility company has to invest in a new power station, it is not only necessary to compute the annual cost of carrying the investment, but it is also necessary to compute the annual economies in power production that will result from the ownership of the power station.

Nor is it practicable to make such estimates or plans as to the investment in fixed assets only at the time when the original investment is made. Like the ostrich that buries its head in the sand, many otherwise astute business men talk of writing off their plant invest-

ment to a dollar. That is, of course, a fallacy which we all recognize. Yet it is surprising how many of us believe that we have more than done our duty in financial planning when we have set up a large depreciation reserve as against our investment in fixed assets. The depreciation reserve is, of course, a budget or plan and as such is worthy of all respect and of a good deal more scientific treatment than the depreciation reserve usually receives. Nevertheless, the depreciation reserve largely operates only to give the balance sheet picture. We show ourselves at stated intervals on the balance sheet the number of dollars we have invested in fixed assets and the subtraction that we make gives us the depreciation reserve. This should give us the comfortable feeling that we are not fooling ourselves so far as the balance sheet is concerned but we certainly do fool ourselves if we stop at the balance sheet, because the balance sheet is a photograph or, rather, it is not so accurate as a photograph; it is a portrait expressing an opinion as at a given moment of time.

Financial planning as to investment in fixed assets consists of a monthly statement, a quarterly statement, and an annual statement of the recurring costs of the investment as against the established productive use. This is statistical work of a high order,—real accountancy. Idle plants and machinery all over the United States are living witnesses to the lack of careful planning as to investment in fixed assets. Now please do not misunderstand me. The fact that plants are idle does not mean that the plants should not have been built. The financial planning that I am talking about is the current, regular, systematic contrast of recurring costs against recurring productive values in use. In this connection I can do no better than to read an extract from a thoughtful address made by George P. Torrence, President of the Link-Belt Company, before a recent meeting of the American Society of Mechanical Engineers.

"In these days of disturbed and disturbing conditions financially, industrially and economically, people are searching for the way back to normal conditions, and are questioning all present methods and practices, hoping to find the cause and the cure. Every user and manufacturer of material handling machinery has also given much thought to the problem, and may have questioned, with others, the future use of such devices, and the proper place of such devices in the general economy of our industrial operations. It seems worth while, therefore, to discuss these questions among ourselves and to consider what part material handling machinery may be expected to take in

the future of industry and in helping now to restore business activity and prosperity.

"As a background for our discussion, it does not seem necessary to analyze the causes of our present situation. That has been done many times and very competently. Suffice it to say, that for the moment, our distribution, our credits, our manufacture and business generally are very much out of gear, and that the seriousness of the situation scarcely can be over-emphasized.

"In these days of widespread and large unemployment, and the distress which follows, a sincere doubt has come into the minds of many people regarding the social wisdom of material handling machinery and all devices that make for an increase in production in relation to the number of people employed.

"Magazines and books on economics and social problems have much to say about technological unemployment. Some have the opinion that production machinery has been developed and used to too great an extent, and that we would all be better off if we did not have as many devices for quantity production and for the saving of labor.

"As conscientious citizens, as well as manufacturers and users of material handling devices, we want to analyze these trends of thought, to be sure that we are on sound ground ethically as well as practically in manufacturing and using labor saving machinery.

"Material handling devices form merely one group of labor saving devices. Machine tools form another group that has had a large influence in making quantity production possible. Agricultural implements are another. Almost every modern mechanical tool and electrical device has contributed its part to quantity production. Thus either all are wrong or all are ethically wise.

"The phrase 'Labor Saving' is applied more frequently to material handling devices than to machine tools or agricultural implements, because common labor is replaced while the machine tool frequently replaces skilled workmen. Perhaps it is easier for the laborer to find a new opportunity than for the skilled workman. The result is the same in all cases.

"Statements have been made many times during the last few years showing that the people of the United States have more material things to make them happy and to make their lives worth while, and also have more educational advantages than any other nation previously has achieved. This has been true with the shorter working

hours making possible the enjoyment of these advantages. We have thought of ourselves as a nation of prosperous citizens. Something has happened to stop our prosperity. For the moment our situation is out of gear, but this does not change the fundamental reasons making possible the widespread distribution of material things and educational and social advantages.

"Our problem socially and economically today is not to reduce the number of mechanical devices, not to abandon the use and manufacture of material handling equipment, but to get our financial structure working so that the general distribution of the products from quantity production machinery will be re-established. Material handling machinery is necessary for the well-being of our country."

All of us will agree with Mr. Torrence that the world has continued need of more and more production. It is planned production that we need.

The financial executive has, then, the second great problem constantly before him in the administration of fixed charges. In planning the investment in fixed assets, due consideration has been given to the fixed charges of interest, depreciation, taxes, insurance, and supervision as applied to each particular investment. The administration of fixed charges must be expressed in careful budgets and plans as to each one of these objects of expenditure.

Several years ago, at your annual meetings at Atlantic City and at Buffalo, I had the pleasure of introducing to you the attractive field of budgets in their relation to cost accounting. So today when I talk about the administration of fixed charges, I have in mind the establishment of budgets or standard factors as to each of the fixed charges. The depreciation reserve in its operation is, of course, a budget or estimate as to obsolescence and wear and tear. All of us are familiar with the establishment of a reserve for taxes and for interest charges looking towards the spreading of such charges in installments over the year rather than final accounting for such charges on the particular date when taxes are paid or interest is paid. Budget work in the administration of fixed charges should go much further than the mere spreading of these charges into the cost accounts or into the 12 monthly reports of the fiscal year. Real planning as to fixed charges lies in the correct understanding of the amount that such fixed charges are of each sales dollar billed. Every dollar of your sales necessarily incurs the burden of provision for depreciation, provision for taxes, provision for interest and other

financial charges, and the cost of supervising the investment in plant and property. The total amount of such fixed charges may be only a small fraction of 1% as applied to the sales dollar. This is particularly true when times are good and the value of sales is increasing. As sales decline, we find that the burden for fixed charges remains constant or tends to increase in amount and, of course, rapidly mounts up in geometrical progression in relation to the sales dollar received. The fixed charges that were a microscopical portion of the abundant sales dollar of 1929 now become more visible to the naked eye as a recognized fraction of the sales dollar of 1932. This is emphatically true if proper consideration is given in the costs to that part of the overhead of 1932 which is deliberately incurred because of the necessity for managing the fixed assets not now necessary but present nevertheless in the corporate structure. In many cases at least one half of the total overhead expense in the general office should be set aside as part of the fixed charge because at least one half of the expense incurred in the general office can be justified today only in terms of the amount and character of fixed assets owned.

It follows that the administration of fixed charges is not merely a matter of establishing depreciation reserves and tax reserves. Proper administration of fixed charges involves the study of the amount of such charges day by day in their changing relationship to the business in hand and offered.

At the risk of too long a speech at this time, I feel that I should give you one concrete illustration. Let us take the case of a manufacturing plant with a fixed property investment of $5,000,000.00. After careful consideration, the management decides that the smallest amount of fixed charges will be $50,000.00 per month. This $50,000.00 per month is compared with business offered of $250,000.00 per month. In short, 25% of the sales dollars received is instantly absorbed by fixed charges. Obviously, this is the road to ruin, no matter how good the current position of the company happens to be today. The inventory may be under control; the receivables may be well collected and in good shape; the cash and investments on hand may be ample for current requirements, and yet the burden of fixed charges may make impossible the continued operation of the plant. This is no fanciful illustration, but is actually and concretely a statement of what has happened and is happening in hundreds of our best managed industrial concerns. The cost accountant will have no production to cost in such a case unless the cost account-

ant can aid the financial executive in definite and concrete plans under which the burden of fixed charges can either be postponed or relieved. It may be all very well to continue high depreciation rates because of dearly fought and won victories before the Internal Revenue Service, but this reason, compelling as it is, may have to give way to candid consideration of the depreciation that can actually be absorbed under competitive conditions. This, in turn, may require the revaluation of the investment in fixed charges, even at the sacrifice of a very considerable part of the surplus account or even at the requirement of scaling down existing capitalization. Similarly, taxes must be reduced. This is not merely a question of writing to your Congressman. Often it is the question of accurately and faithfully presenting the exact economic position to the local and state taxing authorities. Government officials are often amenable to economic argument and the cost accountant should shape his plans accordingly so that definite and intelligent data can be presented before the taxing authorities. By this I mean the very definite presentation of the exact relationship between the tax burden and the cost of the manufactured product. To complete the illustration, there is no reason in the world why frank recognition should not be given to the cost of supervising the investment, whether the investment is in Liberty bonds or in plant and machinery. Every investment of whatever character carries with it the day by day cost of supervision. These costs are excessive today and must, and can, be reduced. Before one can set about reducing such costs it is necessary to get them out in the open and look at them. In too many cases the boards of directors and the executives look blankly at you when you mention the cost of supervising fixed assets. The blank stare from the executives and directors is not only a reflection upon their intelligence, but is a just criticism of our failure to recognize this factor in setting up our costs.

The third duty in financial planning that we have selected for discussion today lies in the establishment of the estimate or budget of cash requirements. Obviously, the payroll must be met. Raw materials must be paid for. More than that, financial charges must be met and overhead expense must be paid for. There is no more powerful weapon for economy in general management than a budget of estimated cash receipts and estimated cash disbursements. The power of that budget lies in its directness and in its inevitable character. Money cannot be paid out unless it is in hand. Despite the effective-

ness of this weapon, financial managers generally content themselves with estimates of cash receipts and disbursements gotten together in summary and general terms. Where there is such a budget at all, it is usually merely a general statement. Here we must sharpen our wits and our teeth. Every principal commodity in your business should have its own estimate of cash receipts and cash disbursements. Let us suppose that you manufacture only two articles. Even in as simple a case as that, you should have a cash budget for Article A separate and distinct from your cash budget for Article B. It is not enough that you know the gross profit and the net profit on each of the two articles. It is imperative that you should know the investment that is required for each of the two articles. Every principal commodity you manufacture requires an investment in cash, receivables, and inventory. You should know the turnover of receivables as well as the turnover of inventory as to each of your principal commodities. Obviously, you should know this, if you are to correctly price the commodity, because the gross profit of any commodity should be, and is, influenced by the turnover in receivables applicable to the sales of that commodity. Diamonds require a larger gross profit than sugar, not only because the inventory turns over more slowly as to diamonds, but because the receivables and collections turn over more slowly than they do as to sugar. If I insist upon this perfectly obvious principle, it is because I want you to apply it to the disbursement side as well. Your estimate of anticipated disbursements should be in terms of costs of principal commodities. That is exactly why the cost accountant relates himself to the day-by-day problem of the treasurer. It is pathetic that so many cost accountants do not realize the problem at all. Severe competitive conditions, such as those we now enjoy, require us to know what moneys we will have to pay out, and when. We cannot answer "what" and "when" unless we know "why." The payroll disbursements, the raw material disbursements, and the overhead expense disbursements for Commodity A differ in volume and in time from the analagous disbursements for Commodity B. Under the competitive conditions that we approach, no business will succeed unless its financial executive knows how to move money from one commodity to another commodity within his business. We Americans have studied routing, scheduling, and dispatching of materials through the factory. All of us are getting ready now to study the routing, scheduling, and dispatching of cash receipts and cash disbursements through the catalogue of all the commodities

handled. The time is upon us when we will drop from our businesses the manufacture and sale of certain commodities because we realize that we cannot afford the cash requirements that those commodities demand. After 20 years of professional practice, I give you my word that I have heard of commodities being dropped because they could not be manufactured at proper costs or because they could not be sold at correct selling expense ratios. During the next 20 years I am going to hear more of this and, in addition, I am to learn that commodities are being pushed because they present cash requirements that can be met, and that certain other commodities are being dropped because the business cannot afford the cash requirements they demand. Put in terms of cost accounting, we can say the same thing as follows. Certain commodities will be favored by the management because they impose reasonable cost factors for financing and certain other commodities will be disfavored because they impose unreasonable cost factors for financing.

What we have just said applies not only to the budget of cash requirements but applies to the investment in both fixed and current assets. Hence our fourth topic of control over deferred charges. It would be trite to say that almost all of our industries today have greater investments than they need in their fixed assets and in their current assets. This panic differs from preceding panics in the fact that we have better control than we formerly did over inventories and receivables. Here is at least one place for optimism as to the rapidity of recovery. On the other hand, we have practically no control as to the investment in fixed assets. Specious remedies are advocated and, alas, are adopted. One of the worst of these nostrums is the use of increased amounts of so-called deferred charges to profit and loss appearing on the lower, left-hand side of the balance sheet. Deferred charges to profit and loss, so far as the balance sheet is concerned, are a curious form of self-hypnotism. Bankers and investors alike long since learned to blue pencil such deferred charges, no matter who stated them or certified them. Notwithstanding, the professional accountant hears day by day that the correct remedy for excessive overhead lies in the "deferring" of such overhead expense. Weird and startling devices are employed. The salary of the son-in-law is found to be development expense. The traveling expense in Europe of the wife's brother is glorified as deferred advertising appropriation. Now I have used the expression "son-in-law" and "wife's brother" so as to wake you from your slumbers and get you to listen to me. Just

as a matter of fact, most of the great businesses of the world are built on the family relationship and on the principle of family loyalty and devotion. There are just as many, if not more, loafers and time stealers among the so-called old and devoted employees as one finds among the relatives. What we are talking about here is not personalities but control over deferred charges. Under conditions such as exist today the best control over deferred charges lies in their elimination. If the financial executive lacks authority or courage to make such absolute elimination, then he owes it as a duty to budget the amortization of deferred charges into the operating results of the immediate future. It is better not to defer advertising expense at all, but if you must run a fever about it it is better to plan a recovery in three months rather than to plan a recovery in three years. Certainly, nothing could be more vicious than not to plan recovery at all because that results in crippling and withering and eventual deterioration.

These remarks have been rambling enough, but it is not difficult to recapitulate them. First of all, all financial planning is akin to general management. Financial planning that is cooped up in the treasurer's office is worse than useless. Financial planning must go from the president's office down to the most humble of the employees. The cost accountant furnishes the fact basis. When the cost accountant has genius and experience and prestige enough to project the fact basis through imagination into the future, then the cost accountant becomes the executive himself.

Typical illustrations of the use of constructive imagination lie in the recognition that the investment in fixed assets must be costed; that the burden of fixed charges must be budgeted into operating costs; that the cash requirements must be budgeted in terms of the cost of doing business by each principal commodity; and that the palliatives of deferred charges must be recognized as symptoms of illness and treated accordingly.

Since I am guilty of having taught cost accounting 20 years ago and am even more guilty of having addressed this association 10 years ago, it may not be out of place for me to advance the claim that present conditions offer a great opportunity to the cost accountant. Twenty years ago the cost accountant was thinking of ways and means under which accurate data could be secured as to cost of direct and indirect labor, the cost of direct and indirect material, and as to the pro-rating of overhead expense. However absurd it now seems, there really was a question 20 years ago whether cost accounts should be

balanced into the general ledger or not and much furore of debate was indulged in as to the charging of interest into costs. Ten years ago we had gotten far enough along so that we thought of the cost accountant in relation to budgets or estimates of advertising expenses and selling expenses. We even dared to argue that standard costs would be found useful from the point of view of budgets. Today by sheer force of circumstances we all know that we must consider the relationship between the investments we have in land, buildings, machinery and equipment and overhead on the one hand, and the cost of doing business on the other hand. Today we know that we must balance reasonable costs under competitive conditions against the heritage of investment. It may take some courage for the cost clerk out in the factory to consider the relationship between the cost of producing Article X and the cost of servicing the investment in the new factory building that was built in 1928, but that relationship is there and it is a real and tangible part of the cost accountant's job. Twenty years ago I taught my students that the cost accountant who balanced his costs in with the general ledger would soon know all about the general ledger and would become comptroller, if not treasurer. That prediction was a rash one at the time but it has become true very generally. Ten years ago I advised you very strongly that the cost accountant who prepared budgets would soon become an executive. All of you have been active enough in the last 10 years to know whether there was merit in that prediction. Today I venture the emphatic prediction that the future executive positions of the country belong to the cost accountants of today who have the courage and intelligence to recognize their relationship between financial planning and costs. This audience is intelligent enough; you all know enough about the science of accountancy to recognize the value and merit, or lack of merit, in what I have said today. There remains largely the question of personal courage.

CHAIRMAN GREER: We are very much in Mr. Frazer's debt. I think it must be obvious to all of you that he has touched on one of the most fundamental problems before us. Now that he has gone and can't stop me, perhaps I may stretch his remarks a bit and try to tie them in with what I said briefly at the opening, namely, that our welfare depends on these three factors—what we produce, who gets it, and what is done with it.

This question of what is done with it is one to which we have devoted all too little attention. We are just beginning to see now that much of this prosperity of the era from 1922 to 1929 was fictitious, because we imagined that we were adding to our productive assets when actually we were merely adding to our nonproductive assets. We were converting the wealth we created into forms where, instead of adding to what we needed and wanted, we were merely replacing other things which had served our needs previously; and where we imagined (and reflected our imaginations in our purchases of securities) that we could build up this enormous aggregation of capital, double, treble, quadruple the facilities previously applied to manufacture, transportation, distribution, and make it all earn more for us. As a matter of fact, we were merely substituting concrete highways for railroads, substituting new plants for old ones, substituting new facilities for those which were rendered obsolete by the very creation of the new ones.

We must have better accounting in that respect. We must have more courageous accounting. We must have more conscientious accounting, because I think courage and conscientiousness are two things which perhaps we have most conspicuously lacked.

We have one more speaker on the program, another man who has come to us from outside of the accounting field, who has come to tell us something of his conception of what the accountant ought to do to make it easier for financial institutions to help in the solution of the financing problems in business. I think he would agree with me that where the financing of business has been badly done, the responsibility must be shared between the financiers and those who have furnished the financiers with the information on which they have proceeded. Much financing has been done in ignorance of the facts that were essential, such broad, general facts as those I was mentioning a moment ago, and such intimate, particular facts as should be revealed by adequate budgeting and planning. But much financing also has been done irrespective of the facts, without any search for facts, without any demand on the part of the financial institution that the organization requiring financing submit the information necessary to determine whether it is sound or not.

I said that financing had been either too easy or too hard. It has been too easy in the past for many years, because financing in itself was too attractive. It is too hard now, because we are reaping the harvest of our sowings of several years ago.

Our next and last speaker this afternoon is a member of a financial organization. He is another Chicagoan, a graduate of the University of Chicago. He served for several years in a department of a financial institution which was devoted to the liquidation of unsatisfactory business ventures. He served as treasurer of a company which was trying to extricate itself from financial difficulties, and at the present time his duties consist, to a considerable extent, in studying the reports of financial enterprises and trying to interpret those reports in terms of what will be a sound policy for the banking institution that he serves.

The bankers always have the last word on everything pertaining to finances. Mr. Decker is to have the last word on this program. I am very glad to call now on O. P. Decker, Assistant Cashier of the Straus National Bank & Trust Company of Chicago.

Mr. Decker!

THE BANKER'S VIEW OF THE ACCOUNTING REQUISITES OF A SOUND FINANCIAL PROGRAM

O. P. DECKER

Assistant Cashier

Straus National Bank and Trust Company, Chicago, Ill.

AFTER such a thought provoking address as Mr. Frazer has just made, I should hesitate to address you if I did not believe that what I wish to say follows in line with what he said and what was said by the speakers of this morning.

I understand that in yesterday's session bankers were referred to in the language of the "Bawl Street Journal" as "God's frozen people." In addition to that facetious remark you should, I am sure, be told that at the last Bankers' Club dinner in Chicago the chief speaker of the evening informed those present that, "You may be God's most frozen people, but there is one thing you can be thankful for. You are today carrying more people than the railroads."

Neither statement is absolutely correct. It would be much more correct to tell you that bankers are probably "God's most disillusioned people," disillusioned at least in part by the accountant, and dis-

illusioned probably equally as much by the people who use the accountant's report, be they business men or bank officers.

Many a banker feels at the present time that for years—certainly since the last time he "gave parties," which was somewhere in the period of 1919 to 1922—his mind and the mind of the chap who has been furnishing him figures have moved in beautifully perfect straight lines in opposite directions. There have been perfectly good reasons for these movements, partly the fault of the accountant, partly the fault of the man who uses the accountant's report, and this afternoon I want, first, to call to your attention at least four reasons that seem to be the most usual reasons for the failure of the mind of the accountant and the chap using his report—I care not whether he be a banker or a business man—to meet on common ground.

The first reason I mention, mentioned first not because of its primary importance but because of its understandability, is that too many accountants have been essentially technical men. They have loved too well nice entries, balanced books, pretty reports, proper and complete documentary evidence.

I will give you just one example of the difficulty to which I refer. I am told of a recent directors' examination of a bank (it is a usual examination; banks have it at the same time every year simply as a check-up of the auditing department of the bank for the benefit of the board of directors) where the senior accountant on the job set three juniors to listing all the in-clearings—in-clearings are checks on yourself—in pencil on sheets, noting the name of the maker of the check, its amount, and the date that it was drawn.

The comptroller of that particular bank saw the juniors doing this work and figured out what it would cost, basing his calculation on the number of items a man could list in a day and the number of items that had to be listed. The total bothered him so he went to the senior on the job and said, "You shouldn't do this. Why don't you run an adding machine tape of the items and balance it with our ledgers? If the two balance you have made the check."

The senior said," No, I have to have complete records of all the entries."

They had a terrible battle. The accountant won, but what did that comptroller get out of any remarks that the accountant may have made in his report regarding the operation of the bank? Nothing. That one action made the comptroller consider that senior an idiot—

a fee-seeking fool—and every remark that he made was, therefore, an idiotic and foolish remark regardless of its logic.

This is but one example. I could name case after case to you where the technical love of a junior, a bookkeeper or a senior has either confused the chap who is using the report or has made him cease to think and get mad, thereby totally destroying the real value of the report.

A second reason why accountants and the users of reports have frequently not gotten together is that the accountant, if he is a public accountant, has permitted himself to be talked down in the price that he wants for a job to a point where the report he can render if he even makes expenses isn't useful to the man to whom he is rendering it; or, if he is a plant accountant and running a cost department or an internal accounting department he permits his department to be cut to such a point that it can not operate efficiently.

I have met a banker who is a very shrewd judge of interest rates. He knows exactly when to urge his customers, whose loans are more or less permanent, to borrow for ninety days, (when interest rates are going down, so that he has a ninety-day high rate loan on his books), and if interest rates are going up he knows when to urge his customers to borrow for thirty days, so for the shortest possible time he has a low rate loan on his books. He is a shrewd business man. Yet he has never found out that the public accountants he employs are just as shrewd business men as he is, and if their price for a job is knocked from $1000 to $900, he gets a $900 job, which may not be useful to him. That man has never had that beaten into his head, 'tho several years ago his institution suffered a terrific loss because an accountant's report, for which he wouldn't pay an adequate price, never certified an inventory. He found that the inventory, as certified to by the management, to put it mildly, was too optimistic.

On the other hand, I was told only last Saturday of a president of a corporation, who in a meeting of the executives to cut expenses, with just one mark of his pencil marked off the whole cost department, saying, "We'll eliminate that. We can't sell the stuff for what it costs us to make it. Therefore, why try to find out what it costs us?" What surprised me most about that action was that there wasn't a single executive in that meeting—and a banker's representative was there too—who even protested. They thought it was good policy. It saved "X" dollars of expense. Certainly you must agree that the accountant is partly to blame for permitting his profession to get

into this category where its price can be cut or its working force be eliminated.

Thirdly, the accountant is prone to use weasel words. After all, when he makes up a balance sheet, he feels he has to use standardized terms, and he uses a word like "cash." Now ask yourselves how many of you know what your customers think when they see the word "cash" after you have placed it on a balance sheet. Does it mean cash in the till? Does it mean cash in the bank? Does it mean the president's check placed in the cash drawer in the morning to be lifted out and replaced by a note the day after your audit? What does it mean? The president's replacing his check by a note isn't a very far-fetched case. You probably know of more such cases than I do, for after all, I am not in a position where such happenings would be revealed to me. Cash is a weasel word.

What does "inventory" mean to the people who use your report? Does it mean merchandise? Probably, yes. Good merchandise? Salable merchandise? Stock that has been on the shelves since before the present management appeared in the business? What does it mean? Do you know? I am told of a certain mail order company that hired a man the other day on a percentage of profits basis to clean out its basement. He found bustles in that basement. He found rats for women's hair in that basement. He found everything in there still on the inventory. He came to see a friend of mine literally crying. He said, among other of his less profane statements, "I took that job on a percentage basis and, look here, they have handed me a dozen fur coats that cost $700 I can go to the Boston Store in Chicago and buy the same thing for less than $150 today. What can I do?"

True, my example may be an example of bad valuation, but the people who use your reports and see the word "inventory," in their minds do not think of inventory in the same logical manner that you do. The word "inventory" is a weasel word; it conceals; it doesn't bring out all the facts that the users of your reports should have.

The last fault is more the fault of the user of the accountant's report than the fault of the accountant. Simply stated, it is this; the accountant fails to realize what the user of his report reads into that report. He fails to understand that the user of that report, unless the facts in it are pounded home absolutely and completely, tends to read into that report conditions that do not exist; and to think with his heart instead of his head.

I had a most interesting experience Monday. I sat and listened

to a conversation between the chief banker for a fairly large business —certainly one of the largest businesses in its particular industry— and a very small stockholder of that business, who had been brought together by a mutual friend who simply said to them, "I know your ideas on this business are diametrically opposed. I think you ought to get together."

The conversation started with one man saying to the other, "We understand our ideas are different. I should like to learn by listening to you."

The small stockholder said to the banker, "I don't need to look at the figures. We both know them. The current position, after you eliminate the doubtful current assets, is $1\frac{1}{16}$ of 1. The depreciation and the depletion charge for years have been the lowest in the industry. The capitalization in relation to gross sales is the highest in the industry. The rate structure in one particular community that contributes approximately one-third of the gross sales is out of line with every smaller community near there controlled by another company and will undoubtedly be revised."

That banker is a very sensible man but he said, "Yes, I know all those facts, but—"

"But what?"

"But the management is good—the President is an awful nice fellow."

That man had started out to think with his heart rather than his head. The accountant who gave him the report on the business being discussed had failed. Exactly how to bring home facts to a man acting like that is a job. In this particular case the small owner did something very unusual. He went to a lumber yard and had it saw out four blocks from a four by four. Two of the blocks he had made in the same proportionate size as the Robert Morris Associates' analysis of the current position of thirty-five businesses in that particular industry showed the relation of current assets to current liabilities. He had the other two made in the same proportionate size as the relationship of the current assets and current liabilities in this business. He said, "I am going to have these four blocks nailed to a sheet of lead and put on this fellow's desk where he will have to see them."

This is probably not to be recommended as a method, but it was done in this case. Don't forget that the accountant is, in a measure,

to blame if he permits the person who uses his figures to think with his heart rather than his head as that man was doing.

It has been far too frequent that the head of a business—particularly the small business, not of the type that Mr. Bullis was talking to you about this morning, which is large enough and advanced enough to have a thoroughly competent budget department—found he needed money or saw an opportunity to use money advantageously, and so, armed with his last audited balance sheet and profit and loss statement and conversation, went to his bank to get it.

He has not been particularly to blame for this procedure, because in times when money was easy to make, he got his loan. He assumes today he ought to be able to do the same thing. But money is not now easy to make. Loans are scrutinized more carefully, and he will be forced to rely in the future more and more on his accountant to give him the sort of information that the person who is going to grant the loan really wants. Therefore, an outline of some of the facts that will be wanted is desirable.

You should remember, first, that any sort of credit is extended only after the person extending it knows four kinds of facts about the person he is extending it to. What constitute those four kinds of facts? The first group are facts regarding character; the second, facts regarding capital; the third, facts regarding collateral; and the fourth, facts regarding capacity.

In addition to knowing these four types of facts, the person granting credit, before he will even consider granting it, will want to know three other facts.

Why is the loan wanted?

Is the loan always going to be safe?

When and how is it going to be paid?

Character: A sample list of facts will indicate the type of information demanded by a lender. He will want to know what is the industry to which credit is being extended. Is it a good industry, in the sense that it is not a vastly over-produced industry or one of those with decreasing demand? What are the trade practices of the industry?

Just one example of this. Suppose you loan money to an oil company today. You are interested in knowing if the oil company agrees heartily with proration or not. You are interested in knowing if the company is one of those companies that sells gasoline to bootlegging gasoline stations that come and go as they can beat the state tax. You

are interested in knowing whether the industry is so tied up with agreements as to price and territories that the particular business you are loaning to is hampered or will die if agreements are abrogated.

How many accountants' reports that you know of have ever included remarks of this type?

In describing character you will also want to tell something of the age of the business and something of the experiences of the principals of that business. As an example, a business came to the attention of an associate of mine in 1917, which had been built up by a man who had just died. He had been married three times and had twenty-odd direct descendants, all sons, all working for the business. Early in 1920 it went into bankruptcy. Yet people loaned money to it up to a month before it was petitioned into bankruptcy, on the basis of the father's reputation and past figures. They never inquired as to the age and experience of the principals who were running the business, or as to the way they worked together.

There is a certain mail order business that is at the moment no longer in existence. It may still be liquidating; it is certainly going out of existence. One of the bankers of this business publicly stated, when a certain individual became president, "I am out, because on every job that man has ever had he has fought with everybody he worked with." The principals of a business are very important in determining its character.

Character description also requires that you know the growth of the company; its position in its industry; the number of years that it has operated at a profit; what part of those profits have been kept in the business.

All of you have heard of the Erie Railroad. One of the axioms that an office boy, on that street that begins in a graveyard and ends in a river, Wall Street, always learns when he goes to work is that Erie will never pay a dividend. I am told that the other day the road celebrated its one hundredth birthday without a dividend on its common stock.

Surprising as it may be, in the last four years the Erie paid dividends one year in full on its preferred stock, and in another year a part of a year's dividend.

Would it mean anything to you, in making a loan to the Erie, to know that since the present management took over the road it has earned $36,000,000 or $39,000,000 and of that all but $3,000,000

has been plowed right back into the property? This is a tremendously important factor. It is that type of factor regarding the character of the business that you want to set down when your client starts out to get a loan. Technical accounting? No, of course, it isn't. It is a far cry from technical accounting, and yet there usually isn't anybody in the business who is going to prepare this type of information except the controller of that business or its accounting counsel.

So far as capital is concerned, the head of a business seeking credit should have in addition to the last audited balance sheet and last profit and loss statement, two other statements, the most recent balance sheet and the most recent profit and loss statement.

We all have had too much experience with working on figures four months' old in times like these. There is a case on record in Chicago of a dress manufacturer who filed a voluntary bankruptcy petition this month, who had a current position January 31, 1932 of 15 to 1. Why he is in the bankruptcy courts I do not know, but certainly whoever extended him credit should have known that his current position changed from 15 to 1. Certainly, too, he who extended credit is not going to grant it again in the future unless he knows present current position.

The second statement the head of the business ought to have when he seeks credit, is a copy of the adjusting entries made at the end of the previous fiscal year. He should have such a statement because so frequently items are carried over, as Mr. Frazer mentioned this afternoon, and not put into the balance sheet until the end of the year, that people are now leery of interim statements unless they know what type of adjustments are likely to be made. A statement of the adjustments made the previous year will quiet such fears.

Lastly, it is quite essential that an explanation of those weasel words in the balance sheet be provided.

It is unnecessary to take a lot of your time and go over each one. Let us consider just a few.

Cash. The assumption is made by anybody seeing the item, "cash" in the balance sheet, that the cash is there and available for use. If it isn't the explanation should so state.

Inventory. Lenders want to know something about the kind of goods in the inventory. After all, the customary practice when you are loaning money is to look at the finished goods and the raw material, and figure that these two items can be sold at a certain

discount. Work in process is considered junk. After all, if you liquidate a business it usually turns out to be so.

Some statement of the balance of the inventory is also desirable. A certain retail merchant in Chicago, at the end of 1931, went into bankruptcy. He had a shoe stock of about 6,000 pairs. The receiver for that business is still looking for a market for those 6,000 pair of shoes. They are women's shoes. The lowest size is 9. The poor chap—he is a good banker, too—who loaned money to that business got a terrible shock when he found this out. He asked the borrower, "Why didn't you tell me they were all size 9 or better?" The borrower never thought of it. He considered his shoe inventory no good and thought his banker did too. His banker is never going to get caught again in a shoe stock. He will know what the balance is in an inventory. But an accountant is partly responsible for letting him get caught this one time.

The method of pricing and costing as well as an accountant's certification to an inventory is also important.

There is a case on record in the courts in Chicago where an accountant certified that the management had taken the inventory and that he had inspected the inventory sheets for clerical accuracy and was satisfied with it. The record does not state who inspected those inventory sheets, but if he had looked at the item of pig iron alone he should have realized that if the plant had been ripped down and the pig iron piled on the premises as high as the plant, all that was included in the inventory couldn't have been located there. You will say the management's inventory was at fault. True, too, the accountant only certified to the clerical accuracy, but anyone who knew what pig iron looked like and how much it weighed couldn't possibly have made that mistake. The accountant isn't justified in shutting his eyes ever so little.

Fixed assets: Lenders are demanding to know a great deal about fixed assets, particularly along the lines Mr. Frazer was discussing. They want to know something of the relationship of fixed assets to gross earnings. They want to know something of the method of valuation and depreciation. They want to know something about the maintenance of those assets. They want to know something about their liquidation value.

A friend of mine, who was formerly in the bond business, came in the other day and said he had a wonderful proposition. He said, "I am going to quit the bond business and go into the tile business."

I don't know what kind of tile; I didn't get that far. He laid down before me a balance sheet showing a plant valued at $1,500,000 and $400,000 worth of net currents. Let's forget the other items. He said, "I can buy it all for $550,000." I am frank to say to you that I think anyone who loans that friend of mine $50,000 on those fixed assets is probably making a bet on his ability to run a tile business, because the fixed assets are located in a small town, and no one knows what you could do with them if you couldn't use them in the tile business.

There is another case on record that goes back eleven years, of an automobile business in Indiana with $1,500,000 in bonds against a plant valued at $4,000,000. The plant was sold for $60,000. The bondholders got 1% on their claims.

Current liabilities: Lenders want a statement of their age and method of payment. They want to know the possibility of working into suppliers of merchandise in case the bank loans have to be paid.

As an example, a certain department store is known to have terrific serial maturities on its mortgages. As long as it continues to earn money everything will be fine. The day it fails to earn money, the serial maturities on its mortgages will simply greatly deplete its working capital. Its owner wants to buy another store and asked about it. He was told, "You are foolish. If your earnings aren't sufficient to meet those serial maturities your working capital will be wiped out."

He said, "No. Look here." (His accountant knew his job.) "Here is the list of people I buy from. Here is what I buy from them. Here is what I owe them and how I am anticipating my bills. I will just cease to anticipate and run along on discount terms, and I will be all right." He was right. He had an ace in the hole. He could work into his merchandise creditors.

Fixed liabilities: Lenders want to know interest rates, maturities, etc. For example, a marble company down in Missouri borrowed some money on notes. The question came up later as to whether the notes were or were not a lien on the inventory. I defy any six Philadelphia lawyers to read the indenture under which they were issued and find out. You simply can't tell. In the meantime the noteholders worry.

While I don't want to take time to mention them in detail, the same detailed explanation of the items on the profit and loss statement should be given.

In addition to the last audit, and an explanation of each of the items, some comparisons to a standard should be set up. Here are some little books put out by the Robert Morris Associates, and so small you can carry them in your pockets. They take numerous industries, collect reports on a number of approximately the same size companies, summarize them and express in percentage terms the items on the balance sheet. I am looking for the moment at the item of boots and shoes. Cash is 6 per cent of total assets, receivables 37 per cent, merchandise 28 per cent, and so on. They provide a standard for judging an individual business.

In portraying capital, lenders will, in the future, have you make for them some sort of ratio analysis of the statements you prepare. It is unnecessary to call to your attention the usual ones of current assets to current liabilities, etc., but your attention should be called to two that lenders are going to look for and which you usually do not make. One is the relationship of owned to owed capital. What is the stake of the owner in the business compared to the stake of the creditor, and, secondly, what proportion of the owned capital in the business is tied up in net current assets, net fixed assets and net intangibles.

To an extent, the preparation of the balance sheet and the statement of profit and loss to portray capital for borrowing purposes is technical accounting. To an extent it is not. Certainly, if these statements are properly annotated and if they are graphically expressed, the banker who looks at them will understand them better than bad statements with a certification.

Collateral. It is unnecessary to spend much time in discussing the preparation of information on this point, but you should think of it as "aces in the hole"—business life insurance, personal wealth of the partners in the business—that can be thrown into the business in case of difficulty. The possibility of working into merchandise creditors which was mentioned earlier is another example of an ace in the hole.

Capacity. The head of the business who is looking for money must obtain from his accountant a notion of the capacity of his business which he must impart to the lender. Such a notion must necessarily answer the last three questions: What is the money going to be used for? Is the loan always going to be safe? How is it going to be repaid?

An example of the perfect preparation of such information comes to my mind in connection with a certain oil company that entered into an expansion program in 1928 in contemplation of some permanent financing in 1930. The investment bankers wanted to charge too much for money so the company went to commercial banks with some of whom it had never done business, and laid before them a budget of anticipated sales for a period of three years. After all, the oil business is pretty much a mining business obtaining net cash income over and above current disbursements. They said, and proved their point, "If you will loan us money now, we will pay it back in three years out of our depletion income."

Frankly, gentlemen, the man who made up that budget made it up so well that the company borrowed a terrific amount of money, and now two and a half years have gone by and those loans are being paid exactly in accordance with the budget. That company would never in the world have gotten money if some accountant hadn't prepared a statement of capacity of that business to pay for quite a period in advance. That is technical accounting, but it is also the highest type of management service.

Personally, I feel very definitely—and I know my feeling is not unusual nor it is not unusual in my institution—that more and more we are going to demand figures from the accountant that mean something to us, and supplemented by information that answers our natural questions. More and more the service of providing that information is going to be a better paid service. It will have to be. It is not at all visionary to tell you that it is a development of the coming decade. Just as budgets came in after the 1919 fiasco, so during the coming decade you are going to have the demand, by those giving credit, for information of the type that I have outlined to you. It holds out an extremely bright potential future for the accounting profession and the wideawake accountant.

CHAIRMAN GREER: Thank you, Mr. Decker.

Gentlemen, Mr. Decker has contributed to this program just what I had hoped he would. His talk emphasizes two points which I think we frequently overlook.

First, in our concentration on the problems of management, on what the executive of our concern thinks he wants and needs to know, we sometimes forget that the people outside of our executive

ranks often have an important responsibility toward the business and an important part in determining its success or failure.

Second, it seems certain to me, and it shows clearly in Mr. Decker's remarks, that often we have not been as effective in the control of our financial resources, in the utilization of the funds at the disposal of the business, as we might have been. When we are searching everywhere for opportunities to reduce our costs and to cut down our expenses and to get every possible cent of revenue out of our operations, we must be doubly and trebly careful to see that every cent of our funds is invested with the utmost return, that every cent of our borrowings is secured only when we most need it and at a rate which we can best afford to pay.

Mr. Decker has made it clear that accountants in industry, and accountants coming in to serve industry from without, can play a great part in improving the effectiveness of that particular phase of our operations.

On theater programs you always see an addendum to the general program which gives appropriate credit for the scenery and the hats and the shoes and the various properties that appear. I won't compare our speakers to the properties, but it seems to me only appropriate that you have some idea of where the credit belongs for the talks you have heard today.

The General Program Committee, as you know, has been at work vigorously for some time in an endeavor to produce the best possible program for this convention, but its efforts have been supplemented by those of people who do not appear on the committee and who will receive almost no mention for the work they have done unless I take this opportunity to give them recognition.

Mr. Margeson and Mr. Vieh, who spoke on our program this morning, were obtained for us through the efforts of W. Mason Smith, whom all of you know as former Assistant Secretary of the National Association of Cost Accountants, now an active member of the Chicago Chapter. Mr. Bullis gave his address at the solicitation of our good Dr. McLeod. Mr. Landrigan and Mr. Foster were obtained for us by Mr. Joe Lenz, the untiring President of the Detroit N.A.C.A. Chapter. Mr. Frazer and Mr. Decker came here at my own invitation.

I don't know how you feel about this program, but it has been to me an exceedingly interesting one, one which has given me new ideas,

a new sense of the opportunities and responsibilities that lie before the accounting profession.

If we followed the usual practice, we should now ask for a period of discussion and we should expect a number of questions from the floor and answers from the people who are still on the platform. The hour is late, however, and most of you have been here all day. It seems to me there has already been enough said to occupy our minds very fully and actively if nothing more is contributed to this program.

Therefore, unless some of you strongly wish that the program continue, I am going to adjourn the meeting and urge you to prepare for the festivities which await you at the annual banquet this evening at seven o'clock.

Let me express my pleasure at having been with you.

SESSION V

THE RELATION OF ACCOUNTING TO PURCHASING AND TO PRODUCT ENGINEERING

THURSDAY MORNING, JUNE 16, 1932

LEWIS D. CRUSOE, *Controller*,
Fisher Body Corporation, Detroit, Michigan
Chairman

V. W. Jones is a native of Illinois. He received his accounting education from the Walton School of Commerce in Chicago, Illinois. During the World War he was employed as cost accountant at the Mineral Point branch of the New Jersey Zinc Corporation, engaged at that time in war work. At the close of 1918 he went with the LaSalle Machine & Tool Company, as office manager, which company was later purchased by his present employers. In 1919 he became associated with the Automatic Electric Company, of Chicago, on special cost development work in connection with standard costs. In September, 1921, he entered the service of the Western Clock Company of LaSalle, Illinois, where he is now a member of the controller's staff. He has been active in executive capacity during his eleven years of service, having been in charge of overhead costs, production costs, sales accounting, property accounting, miscellaneous accounting and special cost and budget development work. He has made a considerable study of standards of performance, and of purchasing and sales costs.

S. E. Skinner was graduated from the Rensselaer Polytechnic Institute in 1920 with the degree of M.E. In 1917 he enlisted as an apprentice seaman in the U. S. Navy. Subsequently he was graduated from the Fourth Officers' School, U. S. Naval Academy, Annapolis, Md., and from the Submarine Officers' School, New London, Conn. He then served as engineer and executive officer of the U. S. Submarine N-3 until June, 1918, when he was retired from service with the rank of Ensign, U. S. N. He was employed by Landers, Frary & Clark, New Britain, Conn., as engineer and assistant general superintendent from 1920 to 1930. Since January, 1930, he has been chief engineer of the Ternstedt Manufacturing Company in Detroit. He is a member of the American Society of Mechanical Engineers, the Society of Automotive Engineers, Chi Phi, and Sigma Xi.

J. A. Wilson was graduated from the School of Commerce and Finance at the University of Detroit with a Bachelor of Science degree, in 1921. Since that time he has been connected with the Fisher Body Corporation in accounting work. He was resident controller of the unit of this company at Lansing, Michigan, for six years, and for the past two years has been resident controller at the Fleetwood Unit in Detroit.

THE RELATION OF ACCOUNTING TO PURCHASING AND TO PRODUCT ENGINEERING

CHAIRMAN CRUSOE: I would like to say "Good-Morning" to everyone and to express the hope that we can carry through the day the single thought I have in my mind that springs from the program that has been prepared for this convention. It is said if you want to make a man listen to you that the best thing to do is to hit him in the pocketbook. I feel that the only reason we are here is because you and I earn a living by putting dollar signs in front of figures. The only purpose we have in this convention is to discuss ways and means to advance ideas for controlling dollars.

I have been a bit disappointed, in listening to some of the sessions, at what I consider a rather apologetic tone on the part of accountants because of the position they occupy in industry today. Personally, I do not feel that the accountants have been asleep, nor do they have to go to extremes to sell themselves to the industry with which they are connected.

I would sum up the work of accounting in business by simply saying to you that the reason we find a need for accounting of a different type today from the type we have had heretofore is because of the competition for capital. Back in the days of the owner-manager the making of profits or the suffering of losses was the private affair of the owner of the business. If he made a mistake in the design of his product or did not price it correctly, he was simply washed out of the picture and no one cared very much. Since that time, however, there has been so much capital attracted to business that someone has to be employed to look after it.

The automobile industry in particular, in the past few years, has not been financed by the banks. It has been financed by the man in the street. The automobile business has not, in the main, been a money-borrower; it has been a money-lender. The automobile business has had so much capital attracted to it that it has had money to loan in the street.

Given all that capital, someone had to be put into the picture to assist in its management. That is the job of the accountant. The job is a different one today from what it was twenty years ago, just the same as the job of the engineer is different from what it was then. We don't criticize an engineer because twenty years ago he didn't know how to design an automobile with a road speed of 60 or 70 miles an hour. He had to develop his product. It was an evolutionary thing.

You can't blame accountants for not knowing exactly what should be done with an entirely new thing. Accountants have had to learn their way, exactly the same as the other departments of a business. Personally, I feel that accountants, in this National Association of Cost Accountants in particular, are doing all that they can to bring the accounting profession to that point of development that is absolutely necessary to carry on a business. It isn't a question of what the engineer wants from the accounting department nor what the financial department needs from the accounting department; it is a question of absolute need, because unless the various functions of a business realize the necessity for conserving the capital they have and know they must intelligently cooperate with that agency in their business whose job it is to account for the money, the business cannot succeed and cannot go ahead.

I think today the big flat spot in industry is the need for better and more intelligent control of capital. No one is to be blamed. It is an absolutely new thing. Insofar as we are concerned, the engineer, the production man, and everyone connected with the business will prosper exactly to the extent to which they may help themselves through cooperation with the accounting department.

I am not saying this in a boastful sense. I mean it sincerely. The proper control of capital today seems to be the neck of the bottle and the more help, the more intelligent cooperation the accounting departments can give, the more progressive accountants can be, the more business will prosper.

In today's session, we have eight speakers. Necessarily we will have to try to operate on a time schedule and, although we have set a definite amount of time for discussion, it will be necessary to stop the discussion when the time is exhausted.

I want to introduce, as the first speaker today, V. W. Jones, who is on the controller's staff of the Western Clock Company at La Salle, Illinois. The paper which Mr. Jones will read was a prize-winning

paper in a contest conducted jointly by the National Association of Purchasing Agents and the National Association of Cost Accountants. I take great pleasure in introducing Mr. Jones.

THE INTER-DEPENDENCE OF THE PURCHASING AND ACCOUNTING FUNCTIONS

V. W. JONES

Controller's Staff

Western Clock Company, La Salle, Ill.

FOR the past two days you have been in conference on the relationship which should exist between the accounting department and the other divisions of industry.

One of the subjects that we are to discuss this morning is the inter-dependence of the purchasing and accounting departments. The paper which I am about to present does not deal so much with the mechanics of the work as with possible methods of control of purchasing through the media of reports and with the ability of the controller's office to supply such controls.

In these days of specialization and scientific analysis the ability to measure value received, or services rendered, has been the motivating force which placed cost accounting in a prominent position in industry. Management wants facts. It wants them fast and it wants them accurate. The term "approximate" is viewed with suspicion, as no exacting leader is content to pilot his ship of business by chance. Industry has discovered and perfected new tools of management. It has adopted bonus systems of reward for the worker and established his earning power and efficiency at a point which even he doubted. Psychology and all other instruments of influence have been brought into action and behind it all has been the one thought—"reduction in cost and improvement in quality." But none of this was done without the preliminary groundwork of an actual knowledge regarding facts and a method providing for the measurement of efficiency. Why, then, should there be such an unsatisfactory attitude retained toward the plans of measuring purchasing efficiency and compensating the purchasing personnel accordingly? We must admit that the factors which seem to lend a feeling of dissatisfaction toward all plans of measurement, and which we have come to accept as obstacles

in the path of such a program, are the constituents of uncertainty that are inculcated in our thoughts regarding certain duties.

The measurement of the efficiency of distribution activities was in the same state of uncertainty until competition forced the issue and caused industry to remove the imaginary barriers which it had set up.

The same thing is true of purchasing. Consistent study, investigation, and even experimentation, will evolve a plan which will be equally satisfactory. It is not a question of whether it is worth while to measure purchasing or not; it is a question of how to do it logically. The successful purchaser realizes this and is demanding it for his own protection and future advancement. The plans and suggestions which follow are workable and productive of results. The digesting of the features contained therein should prove of value.

The guide for all future purchasing activities, of course, originates with the company's budget which is set up for the ensuing period. From the budget of future operations, from the various appropriations, and from the sales, production, and expense schedules, is built the future purchasing program. The accuracy of the company's budget, to a certain extent, is reflected in the structure upon which the purchasing program is founded.

To be sound, any accounting method that will result in a system of reports to management which are intended to illustrate the value of the purchasing department and upon which a reward is to be calculated, must view its efforts from two angles, viz.—

1—The major divisions of the purchasing function—the measured results and success with which the purchasing of each division is conducted.

2—The actual performance of each section of the purchasing department, together with the bearing said performance exerts upon the results expressed above.

There are four major divisions of purchasing. They are—

1—Purchasing of raw materials, semi-processed materials, finished parts, and the like, which are used in the manufacture of a product. Also the disposition and sale of scrap and salvaged materials.

2—Purchasing of supplies, small tools, etc.

3—Purchasing of items for redistribution.

4—Purchasing of items of property or fixed assets. Disposition and sale of such discarded items of property.

This plan is devised to show the value of the purchasing for all four divisions on the basis of the following seven points:

1—Inventory turnover and ability to operate within the budget.

2—Cost compared with market and standard. This applies to purchases, inventories and outstanding commitments.

3—Depreciation and obsolescence of existing inventories.

4—Flexibility of purchasing program—class of vendors purchased from.

5—Losses experienced due to lack of materials on hand. (This applies to both production and maintenance.)

6—Income from scrap and salvaged materials, etc.

7—Cost of physical operation of the purchasing department. Clerical, traveling expenses, etc. Cost per order.

All measurement of efficiency in business is secured through comparison. One factor is, of course, the present actual performance. This is the factor that is to be qualified by the comparison. The media that comprises the other factor for the base of comparison vary. In any new field of adventure along these lines, that which is used as a base of comparison is usually past performance. However, past performance is not a safe criterion with which to appraise present activities. The alternate base of comparison is that which uses the media of statistics, research, and scientific analysis for establishing a standard of future performance. Such a standard, scientifically established, is free from the attack of alibis and is a substantial foundation upon which to base a control. Economic conditions are continually changing. Local, national, and international readjustments, which do not reconcile themselves with the record of former results and accomplishments, are forever transpiring. Also, past performance which has been carried on without a thorough scientific control does not furnish a fair guide to efficiency.

It is, therefore, upon the basis of standards that this discussion aims to present the possibility of reflecting the actual value of purchasing. No greater or more convincing evidence can be presented in support of the use of standards in preference to past performance

than the results which have been attained through their operation in the fields of production and distribution.

The application of this plan to each division will now be discussed.

1—Materials Used in the Manufacture of Product

The company's budget was stated as the starting point in the preparation for purchases of the commodities which are in this group. Sales quotas have already been established and anticipated sales volume projected and set up for the budgeted period. From this, manufacturing operation and production schedules are established. In an organization operating an accurate standard cost system the determination of the amount of raw, semi-processed and finished materials which are required and which have to be purchased is a simple matter of mathematical calculation. This last remark, it must be understood, is qualified by the fact that we are assuming that standard costs which accurately state the amount of material required are in effect. In any such well regulated cost accounting system the amounts of the various materials required per unit of production are a known quantity and do not have to be estimated. The determination, then, of the quantities of such material should be the first step and, according to individual opinion, may be done either by the purchasing department or the production department. The latter method is more logical because the production department, of necessity, has the mechanics with which to compile its own schedules and material requirements. Through their planning division they are in a most advantageous position to do this and upon completion can submit a copy of these material requirements to the purchasing department and the budget division, thus saving time and effort.

The second step is the establishment of the total amounts of materials which are to be purchased. These quantities differ from the quantities of production requirements and must take into consideration the inventory of material on hand and on order, as well as the desired inventory which is to be carried on hand at the close of the budgeted period. The quantities purchased may also vary, due to a decided advantage which might be gained by contracting, in some cases, for larger quantities than the immediate requirements demand. (This is decided by the purchasing agent.) From these schedules the purchasing department should compile its budget of expenditures and present it to the budget division for approval. After it has been

approved the purchasing program should be drawn up. Both this program and the purchasing budget must be sufficiently flexible to provide for variation in the master budget and production schedules in case a change should be deemed necessary by the management.

It is at this point that the accounting for the measurement of purchasing efficiency begins, and it is discussed as Point No. 1. Raw materials and the like are purchased on a fluctuating market and can not simply be bought as the stock is depleted. This is one of the tests of a purchasing agent's ability. He must reconcile existing inventories and commitments with future purchases on a varying market so as to secure his commodities at the lowest possible price and to keep turnover at a maximum. Commodities of this nature are not bought on the basis of requisitions that originate in the plant when a minimum store quantity is reached. Contracts and commitments are negotiated which should result in the most economical price being paid for the commodities over the period of purchase or operation.

To do this, it is at all times necessary to be acquainted with market trends, and with the state of existing inventories, purchases, and contracts, as compared with the budgeted inventories, and purchase expenditures. The basis for analysis of market trends is furnished by the statistical and research section of the purchasing department. This may be shown by a simple graph or some other report. The inventory and commitment position of the company's material and purchases may be secured from a combination of data supplied by the stores department regarding stock on hand and from the record of commitments to which the company is obligated.

In spite of the care and effort expended in compiling the budget, it is a common occurrence for the management to be compelled to alter the original plans. This is especially true since the present period of depression has gripped the country. Practically every industry is operating on a hand-to-mouth buying policy where possible, thereby reducing the amount of working capital tied up in inventories to a minimum. As the purchasing agent's efficiency is partly judged by his turnover it is of extreme importance that he at all times be acquainted with any anticipated changes in production schedules and inventory requirements.

There is a decided benefit to be gained from the increased turnover of raw materials alone. To illustrate this fact we may take a hypothetical case wherein a budget program of one year calls for a resultant net profit of $250,000.00 on $4,500,000.00 sales. In this

budget, provision has been made for the maintenance of $1,500,000.00 working capital with an inventory value amounting to $1,000,000.00 and a turnover on said inventory of 3.5 time per annum. This would result in a budgeted return of 16.67% on the working capital.

If, with a successful consummation of the sales budget, an alert purchasing organization reduced the average inventory value from $1,000,000.00 to $800,000.00 for the period in question it would result in a reduction of $200,000.00 in the amount of required working capital, thus releasing that amount to be used in some other manner to increase the company's return on its investment, at the same time it would increase the inventory turnover 4.75 times and the rate of return on the retained working capital of $1,300,000.00 to 19.23%. Assuming that this improvement was all made on raw materials, it can be justly considered as an item of purchasing efficiency. In analyzing such a condition, however, caution must be taken to separate the inventory for which the purchasing department is responsible from that with which it has no connection. This is clearly demonstrated in the example which states that, while the budgeted turnover was increased from 3.5 to 4.75 times, it was due to the fact that the turnover on raw materials was increased, no change being made in processed and finished inventories. Control of this condition should be accomplished through a method of contact and reports which operate among the purchasing, production, and store departments. Constant summarization of such records is very valuable. A statement of the purchasing budget of expenditures and inventories, as compared with actual expenditures and inventories, presents in quite simple fashion the degree of success with which the budget has been maintained. These reports should not be too cumbersome as management cannot be bothered with too much detail. It should always be borne in mind that management is not interested in detail, except in cases which may require special managerial attention to overcome some existing evil. Their interest is, as a whole, occupied with the co-relation of all activities of the business and the maintenance of the proper ratios among the various phases of their organization. Each major executive is responsible for the proper and efficient administration of his division and the reports to management should be of a nature that will show the trend of the various branches rather than voluminous detail dealing with small incidents and short specific periods.

The bar chart offers an excellent means of presenting the com-

parison between budgeted and actual purchased commodities. Both quantities and values may be shown on the same chart or, if desired, the same information can be submitted in a text form of report. However, bear in mind that your reports to management should be on the basis of major controls with special note only on the commodity groups which are showing decided improvement or otherwise.

Efficiency on this point of purchasing is measured on the basis of turnovers and the amount of working capital released or made available for expansion.

Point No. 2 in the analysis of the efficiency of the purchasing department, is that of "cost compared with market and standard." Here again standard costs enter into the picture. Organizations using them establish a standard material cost which is to be used during the ensuing period and which is estimated to provide for all price fluctuations over that entire period. In setting this cost figure the purchasing department is consulted, and from available statistics, research and analysis of trends, the standard price is arrived at.

The measurement of the efficiency of purchasing raw materials which are continually quoted on the market is not as difficult as the measurement of the efficiency displayed in the purchasing of processed or manufactured commodities. The plan of valuing inventories at cost or market, whichever is lower, of course, furnishes an index of the buying success. This plan, however, can not be continually carried out through the year where there is constant fluctuation. Continual repricing of inventories to ascertain purchasing efficiency is out of the question. It is at this point that standard material prices, scientifically set in advance, offer a very desirable method of securing this information. If this method is adopted the determination of the actual benefits realized in dollars and cents is a more simple matter than is that of securing the knowledge of where and when to buy.

The methods utilized by up-to-date standard cost procedure, of accounting for deviations from standards through the means of "variance accounts," furnish an ideal foundation for such analysis.

The question of "where to buy" is dealt with in the discussion later on. The question of "when to buy" is determined from the analysis supplied by the statistical and research section of the purchasing department. It covers the exacting study of:

1—General price trends for the individual commodities which are to be bought.

sale of the commodity. To illustrate this point let us assume that the total inventory value of obsolete material for the year amounted to $12,000. Of this $8,000 was a purchasing department responsibility and $4,000 was a loss over which the purchasing department had no control. Let us further assume there was an actual realization on this material amounting to $6,000, $5,000 of which was attributed to purchasing ability and $1,000 of which was realized through the plant's ability to make up some of the loss by substitution or otherwise. Then the amount of material obsolescence chargeable to purchasing would be the original loss of $8,000 less the realization of $5,000 or a net charge of $3,000. Likewise the amount chargeable to plant or other activity would be the original amount of $4,000 less $1,000 which had been utilized. The amount of this loss may be calculated as a percentage of the total value of purchases and the size of this percentage treated as an index of the efficiency displayed by the purchasing department in eliminating obsolescence. If treated separately and distinctly within itself, the total inventory value of salvaged or scrap material may be taken as the one hundred per cent base and the efficiency calculated on the amount realized therefrom.

Frequently, certain stocks of material will deteriorate in quantity and value if kept unused for too long a period. This is especially true of acids, chemicals and other similar materials. In deciding the part which the purchasing department plays in this, it is necessary to analyze the stock purchased as compared with the requirements needed and the turnover possible.

Point No. 4 covers the analysis of the purchasing program, its flexibility and soundness. It deals with the consideration of total quantities of the various commodities which are purchased and the number and reliability of the sources of supply which are utilized. This study is conducted for the purpose of having it act in the capacity of a barometer, reflecting the amount of alertness which has been exhibited in utilizing the element of competition for the purpose of gaining the benefits from advantage in price. Not much time will be spent in the discussion of this point as it is more in the nature of auxiliary information, compiled for the purchasing agent's own use, rather than for a report to the management. It is with the aid of such information that the purchasing agent determines whether too many sources of supply are utilized, whereas fewer purchases could be made and both an advantage in price and transportation rates secured. This could be done, providing the volume warranted,

by ordering in larger quantities and from fewer vendors. Such action would bring about a reduction in the amount of L.C.L. shipments and place the orders more on the basis of carload lots.

This type of analysis would also show the reverse of such a condition when it existed, namely, where too few sources of supply were used and insufficient competition brought to bear in purchasing. Any study of this kind would not be of great interest to management for control purposes, as inadequate procedure in this respect would be reflected in the other statements showing the efficiency of operation. Nevertheless, it would be of immense value and service to the purchasing agent. "Watchfulness" is the key to success, and a report of this type would reflect any laxity which might occur along such lines. Any reports on such a condition may in turn be qualified by a record of the reliability of the various classes of vendors and their ability to render service and to comply with the other specifications of the orders to be placed.

Up to this time most of our discussion has dealt with the evils experienced from abnormal purchasing and the means of bringing them to light. Point No. 5 treats of the handicaps experienced from a too reticent and economical purchasing policy.

Our country, which is foremost in the present industrial world, has been the originator and champion of the idea of mass production. Practically all branches of manufacturing in America function on this plan. Neglect to think and act along these lines is equivalent to courting industrial failure. Now that we are in a period of depression and readjustment, some purchasing agents have carried the thought of economy to extremes, penalizing their companies in an opposite manner.

With the vast amount of capital that is tied up in automatic equipment and with the loss even of minutes in a perfectly planned production schedule meaning thousands upon thousands of dollars, no element of delay can be tolerated. The purchasing agent who buys his quantities so closely as to cause frequent delays and shut-downs due to the lack of material is equally guilty of the mismanagement of his department. This may be caused in several ways. He may occasion a shut-down due to lack of raw or other materials required for production. Or the shut-down and delay may be occasioned by the lack of sufficient operating supplies. Still further ill effects may be forthcoming from an inadequate supply of maintenance materials, resulting in shut-downs due to the absence of supplies with which to

repair breakdowns. The purchasing agent cannot afford to lose sight of this fact in his drive for economy. But, as in other cases, the extent of the purchasing agent's responsibility must be thoroughly diagnosed and understood. For example, if he is authorized only to order quantities specified by a maintenance store under complete control of the maintenance engineer, he cannot be held responsible for shortages. But if he has jurisdiction over the ordering of these items, or, at least, if he is permitted to exercise his own judgment in the matter, he must assume the responsibility thereof. A report of all such losses from shut-downs or delays which are caused by lack of material being on hand should be reported in detail and the amount of the loss so sustained should be reflected against the purchasing department.

The discussion of the efficiency displayed in the disposition of scrap and salvaged materials is covered in the treatment of Point No. 6. The same analysis of market trends that is discussed in the treatment of Point No. 2 applies here, with the exception of the fact that rapid disposition of scrap and salvaged materials is not as important as turnover in buying, provided the space is available for storage. In the case of raw materials which are bought on a fluctuating market, the scrap can be retained until high price trends are reached and then disposed of. The price of scrap on such standard raw materials varies in direct proportion to the market price of the commodity itself. The efficiency of the purchasing department in realizing on scrap items is displayed very nicely with the aid of the aforementioned "variance accounts," a standard price being set for the year which is intended to cover the fluctuations. The efficiency could be determined by calculating the per cent which the value received was of the standard value of the scrap sold. The application of the type of report, previously referred to under the heading of "where to buy," also applies to this with the scrap sales being substituted for the material purchases and the indication of efficiency and inefficiency reversed. In many industries by-products are made from the scrap and residue of the main product but this discussion deals primarily with the disposition of scrap materials which cannot be utilized by the company in any profitable manner and which have to be disposed of through outside sources. In many metal manufacturing and processing plants the item of scrap is quite large and represents a very important element of cost.

The last point to be considered in arriving at purchasing efficiency

is that of the physical operation and conduct of the department. This is strictly a problem of office management applied to the personnel and routine of the purchasing department.

In purchasing, as in all other activities of the business where records must be compiled and clerical work performed, it is necessary to provide clerical help with which to do the work. Point No. 7 covers the discussion of this section of purchasing and the possibilities for the measurement of the efficiency thereof.

Of all the activities of the purchasing department this is the one which is the least difficult of analyzation, due to the fact that the problem has already received detailed study. The National Office Management Association and the Office Management Branch of the American Management Association have made wonderful strides in research work and in perfecting systems of control and measurement of efficiency in the field of clerical operations.

Practically all work performed by this section is in the nature of manual operations and very readily lends itself to measurement and the establishment of standards of performance.

The basis for the measurement of performance in this field may best be obtained through the method of job analysis. This analysis should take into consideration both the elements of quantity and quality. The element of quality has a direct bearing upon the speed which may be attained in performing the task. Job analysis is further aided in this work by time and motion study. However, time and motion study are not always necessary when the proper analyses are conducted.

It is quite apparent that the duty of setting these standards of clerical operation should not be imposed upon the purchasing agent or his staff. All modern organizations maintain standardized procedure divisions, and job analysis and time study divisions, which are especially skilled in this work. The responsibility for the establishment of these standards should rest with the division which is qualified to perform such work.

The job analyst is in a position to furnish complete information as to the individual motions performed, the best method of performing said motions, and all component elements relating thereto. Upon completion of job specifications, they represent complete instructions setting forth the best method of procedure, the time allowed, and the quality of work demanded.

These specifications and standards are the means with which the chief clerk maintains his clerical operations at the highest point of efficiency. They are also the bases upon which the efficiency of the clerical section is figured.

Management, usually, is interested solely in a report of efficiency on this section and how it affects the general efficiency of the purchasing department. The purchasing agent is interested in more detailed knowledge regarding its operation and the success or failure which materializes. Any individual more vitally interested in the analysis of clerical performance can secure information and data of immense value along these lines from the perusal of any of the numerous books published on the subject, or of the proceedings of the following two organizations—

"National Office Management Association."

"Office Management Division of the American Management Association."

The foregoing discussion on the accounting for control of purchases and the measurement of the efficiency thereof has been carried on under the heading of major division No. 1. This same procedure applies in practically all other three divisions with minor changes in the routine.

2—Purchasing of Small Tools and Supplies

The purchasing of supplies, small tools, and other such items which are carried in store, can be economically handled through an efficient physical inventory control established in the stores department. With the aid of the production, maintenance and engineering divisions, maximums, minimums and quantities-to-order can be established which will be utilized by the stores department in making out requisitions for the purchase of items when the stock thereon is reduced to the specified minimum.

3—Purchasing of Items for Redistribution

The purchasing of items for redistribution refers mostly to merchandising establishments such as department stores, etc. This offers a slightly different problem if considered from the department store angle, as the buyer in that particular case is usually in charge of the stock of goods from the time it is purchased until it is sold. He has to purchase it, store it, price mark it, maintain inventory records on it and follow the sale and disposition very closely, as his ability

as a valuable buyer is reflected to a very great degree upon the success with which his merchandise is accepted by the trade.

As this article deals primarily with manufacturing organizations this major division does not come up for as much consideration as the other three. Nevertheless, there are some manufacturers that are really carrying on some resale activity. In such cases a very accurate index must be prepared which shows the relationship between the potential sales market and purchasing requirements.

4—Purchasing of Fixed Assets

The Purchasing Department can be greatly assisted in the work it performs in major division No. 4 by a proper budget control of these expenditures. A report of all new equipment which is to be purchased during the ensuing budget period should be submitted in advance for consideration of the budget committee, and application made for appropriations to cover such equipment. If this is approved by the budget committee, the appropriation should be granted. Then at the time the purchase of the equipment is desired it should be ordered on a "Special Expenditure Requisition" which should in turn be approved by the budget committee. As all figurings as to the return on the investment and the like have already been made, it rests with the purchasing department to place the order. However, while the purchasing agent should have the final word in placing the order, it is imperative that he have opinions and advice from the master mechanic, chief engineer, and anyone else vitally interested, and work with them in a spirit of cooperation.

The question of disposition of old equipment is also another factor demanding thorough attention. In the case of equipment which is fully exhausted through wear and tear the purchasing agent can do little else but dispose of it as junk. If, however, the property division of the controller's office had an inadequate rate of depreciation thereon it is unfair to burden the purchasing department with the loss. If, on the other hand, the equipment became obsolete, insofar as the individual plant was concerned, but was still standard equipment on the market, then the efficiency of the purchasing agent in disposing of this equipment could be judged by what he netted on its sale, after the proper depreciation for wear and tear had been provided for.

All of the foregoing items of purchasing activity which lend themselves to measurement may be summed up in a condensed resume of the degree of efficiency attained during the expired period. But

a note of warning is sounded in connection with this matter of statements. It is not good business to adopt an orthodox system of statements which, if adhered to, will supposedly show all and cure all. We, as individuals, govern our lives and regulate our habits in accord with the general conduct which we all accept as being the proper method of existence. However, we all display certain individual traits and idiosyncrasies which are peculiar to our own selves. They are the result of our own personal development and we function best when we can utilize them in our performance.

It is that way with management. Management is made up of individuals, each having a particular adaptability. Reports, to be successful, must appeal to their recipients. That is the only way they can be most beneficial.

For example, a general manager who has arrived at his position by working up through the field of engineering might abhor written statements and reports, but literally devour statements of results presented graphically.

As a direct opposite, a general manager who had secured his job by advancement through the accounting activity, might be severely handicapped in attempting to utilize graphical presentation, but would fairly delight in a maze of figures, and through the use of ratios fulfill his position most admirably.

Again, the former might despise detail and only operate on the basis of general trends, while the latter might fairly swim in it and be perfectly at home.

Both men, being equally successful, would have followed out the best principles of management, but each would have carried them out in a manner that best suited his particular trend of thought. Therefore, it behooves those who are submitting statements and reports to study those to whom they are submitted and prepare them accordingly.

In concluding this section there are a few special items which it will be advisable to mention briefly as it may seem that they have been overlooked. One is the question of cash discounts. While the purchasing agent may feel that he is responsible to some degree in securing these discounts, it is, nevertheless a fact that the benefits from cash discounts are entirely contingent upon the ability of the financial division of the organization to have the necessary funds on hand with which to take advantage of them. If these funds are provided, the question of cash discounts will be automatically taken care

of and we are all forced to agree that the provision of such funds has no relation to purchasing responsibilities.

Another item which is often considered when purchasing efficiency is discussed is that of benefits and savings derived from the securing of new and more economical materials and supplies to be substituted for the existing ones.

No one will deny that an alert purchasing department can discover many such benefits through its contacts with the various outside sources of supply, but beyond the reporting and suggesting of these items to the shops methods division and the experimental and research division, it has no further jurisdiction. It is up to these divisions to analyze, experiment with, and test the items in question and to decide if their use is warranted.

There are probably other items which certain executives may think of in connection with the measurement of efficiency. The jurisdiction of purchasing agents varies, depending upon the field in which they operate and the plan of organization which is in effect. The foregoing points which have been discussed, however, cover the major fields of responsibility and any further adaptation can be founded upon them.

The final thought in this section, which warrants special attention, deals with the possibilities of service which exists and can be rendered to the purchasing department by the controller's division. Modern management has endowed the controller's division with the responsibility for all accounting methods, systems, reports, etc. The purchasing agent is not an accounting specialist. Neither is his department equipped with tabulating and other equipment which is so vital to the handling of a large volume of statistical compilation, report and clerical work. Much economy and real intelligent benefit can be had if the responsibility of such work is placed where it belongs, namely, in the hands of the controller who is a specialist in this line. The controller's division furnishes cost reports to the rest of the organization and gives very beneficial service. The ability and capacity for service and control is present therein and should be utilized, allowing the purchasing agent to devote his entire time to his own problems..

If accounting for the control of purchasing is viewed in the manner just presented, it demonstrates without question the interdependence of the purchasing function and the accounting function. Here, as in all other branches of industry, the blending of standard

costs and the budget is used as the base of control and the controller's office is the only source from which such an instrument of control can successfully emanate.

CHAIRMAN CRUSOE: I am sure that Mr. Jones' paper brought out very definitely the point that there must be an absolutely certain relation between the purchasing department and the controller's department and that the success of the business depends in a very large measure on the intelligent buying of materials, and that there is a great responsibility on the part of the controller to make certain that the purchasing department does do an intelligent job of buying insofar as the profit dollar is concerned.

I think we will proceed with the other two papers before we throw the meeting open to discussion, because the program has been designed in a sequential way to show the relation of the various departments in a business.

Our next paper is headed, "The Functional Inter-dependence of Product Engineering and Accounting." If you wish to get a fair cross-section of the progress of accounting and the progress of business as a whole, you would do well to look over the programs of the N.A.C.A. for the past ten years. You will find, as we go on, that whereas five years ago accountants sat for hours and discussed methods of depreciation, we no longer stress the technic of accounting but the importance of the proper relation of our work to the other departments.

The next speaker, S. E. Skinner, is the Chief Engineer of the Ternstedt Manufacturing Company. He is a mechanical engineer and, I feel, represents the type of engineer that we must have in business if we expect to coordinate engineering and accounting. I take great pleasure in introducing Mr. Skinner.

THE FUNCTIONAL INTER-DEPENDENCE OF PRODUCT ENGINEERING AND ACCOUNTING

S. E. SKINNER

Chief Engineer

Ternstedt Manufacturing Corporation, Detroit, Mich.

WE shall consider the functional inter-dependence of product engineering and accounting by bringing out specific contacts between the two departments, insofar as they definitely exist in one particular manufacturing plant.

In a broad sense, our engineering job is to develop and maintain a line of products fulfilling recognized standards of quality and performance, equal to or better than those of competitors, and capable of being produced within the physical and financial limits of the organization on an economical basis.

In the same broad sense, the accounting job is to know just where we stand today on past performances and, from a financial standpoint, to predict where we will be next year if we adopt a plan of action which calls for so much productive and non-productive labor, along with fixed and operating charges, in order to sell our products at a certain profit and pay dividends.

More specifically, we find the engineering department, with the help of overhead and other figures furnished by the accounting department, predicting standard costs of a line of products. We find the accounting department, in turn, predicting how much these standard costs should be marked up into selling prices, in order that the enterprise may stay alive financially. When management weighs these figures, we reach decisions which permit us to start a job and prove, over a period of time, whether the standard cost predictions of the engineering department are in reasonable accord with the actual costs of the accounting department.

To repeat, the engineering job is to develop and maintain the product. Development is usually looked upon as the actual work of putting ideas into concrete form. "Maintaining the product" covers a great deal of territory, and the expression is used here to include engineering activities in our organization from the time the product leaves the experimental model room, until the sales department authorizes scrapping the tools and the part becomes obsolete. Through this period,

covering months or years, we are trying to maintain the product by proper tools and manufacturing methods, and, by means of continual improvement, to preserve its standing in its competitive field as a profit maker.

It is necessary now to present a general idea of the products we manufacture. They are called automobile body hardware, and list, among others, hinges, seat adjusters, door locks, door handles, window operators, curtain rollers, garnish moldings, radiator ornaments, radiator grilles, head and tail lamp brackets, dome and corner lights, smoking and vanity cases, sun shades, cowl moldings, etc.

Our manufacturing processes are necessarily varied in proportion to the diversity of design and construction of the product. For example, one large item is the die casting, polishing, nickel and chromium plating of zinc alloys for use as handles, lamp brackets, and ornaments; in contrast would be the fabrication of metal garnish moldings for door and window openings. The chief operations here are rolling, bending, and welding of steel coils into frames and the subsequent lacquering of these parts, resulting in a wood-grain finish. A large part of our work would be classed as light, sheet metal stampings, upon which are performed such operations as blanking, piercing, drawing, first and second forming, riveting, etc.

In manufacturing we have the natural advantage of heavy production on many parts. This permits the use of special machines and productive lines through which the material passes from the raw to the finished state with the minimum of handling and backtracking, and at the lowest possible unit labor requirement. We go to the other extreme in some cases where special parts are used in very small quantities. The ratio of 60,000 units per day against 60 per month is not out of line and indicates ample reason for very close application on the part of the engineering and accounting departments to each individual job to insure its proper place in our program.

In common with most automotive parts, our products are subjected to seasonal fluctuations and changes in designs incident to the introduction of new models.

Material prices per unit vary over a wide range and may account for a large percentage of cost in one product, only to be a minor factor in another.

Approximate figures showing that we manufacture 6,000 different parts, on which 20,000 operations are performed, will explain the handling of 60,000 changes of rates yearly, and show further cause

for a close working arrangement between the accounting and engineering departments.

Wages are paid on a group plan, although we have some straight piece work and day work. There are twenty-six different groups, with the number of operators varying from fifteen in the smaller to as many as three hundred in the larger groups.

Responsibility for designing, estimating, tooling, and to show production costs equal to or lower than the predetermined costs, rests with the engineering department. Naturally the engineering department does not produce the goods and ship them; it does not hire the labor nor buy the materials. But it does specify what labor should be paid and what materials should be bought. It also furnishes and maintains the tools and equipment whereby labor and material are combined into a finished product.

The engineering department furnishes the accounting department with predetermined costs of products, tools, and equipment; it specifies the method of wage payment, amounts to be paid, and point of payment; it specifies materials and shows usage per unit assembly.

The accounting department furnishes the engineering department with actual costs, burden ratios, material prices, and unit costs of lacquers, enamels, etc.; it supplies figures showing costs of samples, model and experimental work, patents, tools and equipment and upkeep of the same; it furnishes variations from standards, such as group non-productive and off-standard operations, losses, errors, and defects; and collects all figures for the department's budget control. It also reports on projects covering the purchase of new equipment and reports the actual return against estimated return on the capital invested.

We will follow a typical product through the various stages, from experimental to final standard production cost analysis. A general outline of the engineering organization will help to dovetail the various functions.

Special design and experimental model departments report to the chief engineer and assistant chief engineer. The operations engineer heads up the methods department, plant engineering and maintenance, the plating engineering and the laboratory. The laboratory makes physical and chemical tests by means of which material standards are set and maintained. The plating engineer handles all problems of plating processes and specifies necessary equipment and materials. Plant engineering and maintenance is responsible for all equipment

and power and the operation of millwrights, plumbers, electricians, tinsmiths, carpenters, painters, etc.

The methods engineer has in his set-up, drafting, estimating and material specification, time study and routing, die and tool departments—both manufacturing and repair—special machine design, production engineering, and tool trouble.

The first step is to look at our research and experimental work. It is mostly experimental and involves the working out of ideas into definite forms, shapes, and working models for proper appraisal as manufacturing products. At this early stage there is some attempt to work practical manufacturing lines into the design, but this is secondary, as it might stifle the inventor and hold his design within very narrow limits. In this phase of engineering, the accounting department furnishes figures showing expenditures for experimental work, model making, patent investigations, etc.

When the model has received its preliminary appraisal and approval from the management and the sales department, it is turned over to the operations and methods engineers. Some jobs are started off from blueprints, as models are not required for certain simple parts.

The methods engineer has his department organized to bring through a quick but careful estimate of the standard cost of this new part, and what it will cost to tool up and equip the plant for production. Limits are established, materials are decided upon, and the methods of operation are established in their anticipated sequence. Estimators set up a full predetermined cost, with each operation listed in order, equipment indicated, and material specified. Labor is shown collectively as to burden centers. Items such as lacquer, enamel, boxes, cartons, etc. are shown. Thus we put on record our estimate of the standard cost of this product, using for overhead computation, figures furnished by the accounting department; actual costs of similar articles are also used for comparative purposes.

Tools are estimated for each operation and the figures are shown with the predetermined part cost on the estimate cards. In the tool estimates we are not only concerned with practical tool applications from the standpoint of equipment available, but also with the economical use of productive materials that are to be processed with these tools. Material specifications are invariably interlocked with the tool set-up, and careful layouts of blank sizes, casting dimensions,

and required strength of parts must be considered and weighed before the nature of the tools or productive materials can be determined.

Nearly everybody in the engineering department contributes his share to these figures, and we feel that, at this particular point, we lay the real foundation for producing the product at the lowest possible cost. Here we are best able to change designs, to eliminate operations, or to save tool expense. Sometimes a change of design, not affecting proper performance of the product in service, will permit substitution of cheaper materials.

It is at this point also, where we expect our engineers to learn the real value of predetermined cost work; we want them to get the same thrill out of setting up a good operation sequence, at a reasonable labor rate, as they would derive from designing a machine with a hopper feed for making the parts automatically.

It should be noted that the estimated operations which lead to the predetermined cost are, in some cases, worked in the reverse order. Management or the accounting department, in reviewing the prospects of a certain product, very often specify what the part is to cost. The engineering department must devise ways and means to bring the direct labor costs and material costs within this figure.

The predetermined cost is reviewed by the production engineer assigned to this particular line of product. Since he is the man to live with the job, he should forecast how and where he will produce the job and what will be the standard cost. In this way he is fully aware of all jobs coming through his department, knows what is expected in the way of standard costs, and is ready to live up to expectations. We are convinced that close contact with predetermined costs, at this time, puts the production engineer in the proper position to guide the product through the plant two months later, and to insure the receipt of a standard production cost equal to the predetermined cost, at the earliest possible date.

In this process of estimating and forecasting there are naturally some deviations. It is not a straight line proposition. Some jobs require experimental work from a process standpoint in order to determine the feasibility of the estimated operations. Some require a careful study from a material handling standpoint. Purchasing is brought in to advise on procuring special materials or to decide on the choice of two or more possible materials for any one job. The manufacturing department is asked to look over the product, and decisions are rendered as to available equipment and the probable sequence of opera-

tions. Any special equipment is designed or outside prices are obtained. This is under the guidance of the methods engineer and is followed step by step by the production engineer.

The production engineer approves the estimates and they are reviewed by the chief engineer who submits the figures to the management for establishing the selling price. Accounting is much in evidence here, supporting management with actual costs on similar articles and pointing out the general financial situation and the possibilities of expansion with the new product. The accounting department must show where the money is coming from in case this particular product involves a large outlay for buildings, equipments, patents, and tools. Certain expenditures of this nature can be absorbed at so much per unit over the expected production range.

When the new product is sold, the predetermined cost is transformed into operation and routing sheets showing part number, department number, anticipated sequence of operations, prices per 100, burden centers, equipment, etc., and released to the manufacturing and cost departments.

Material for the parts is finally specified and released to the material control and cost departments. Blueprints and job specifications are released to production, purchasing, and cost departments.

Tools are designed and turned over to the tool superintendent, who in all probability has previously made suggestions for tooling, based on good die and tool practice.

Tool costs are picked up against various tool orders by the accounting department and reported to the engineering department for control. The report shows labor and material, and the amount over or under the estimate. The accounting department is supplied with a list of obsolete tools at regular intervals, to enable them to keep capital accounts in order.

This job may require new equipment in the form of standard or special machinery, or the rearrangement of present equipment. The standard machinery is purchased upon receipt of an appropriation from the management. Special machinery is built on an order and the cost reported in the same way as a die or tool. The operations engineer goes over the equipment or plant layout prepared by the production engineer and the superintendent of maintenance, and the job of moving is estimated; costs are reported by the accounting department as labor and material. The accounting department is noti-

fied of all equipment changes from one department to another so that property records may be kept up to date.

The manufacturing department starts the first operations, using routing sheets and blueprints covering each part. The time study department sets rates as soon as each operation is performed. Each rate is submitted to the production engineer as well as the foreman. The production engineer already knows what each individual rate should be; he O.K.'d it a few weeks before on the estimate card. If the price is too high, he works with the foreman, the tool trouble man, the polishing engineer, the plating engineer, or the lacquer finisher, and makes the necessary changes in tools or equipment to get that particular operation in line. In some cases he is able to eliminate the operation.

There is much to be said in favor of setting prices at once before all the "bugs" are out of the job, and something to be said in favor of operating by day work until conditions are more ideal. We favor the former, however, chiefly because, good or bad, we must know where we stand. Day work hides too much.

Allowing just enough time to get the first run of parts through the plant and rates set, we start to look for something to tell us how we are going. Book costs are not practical at this time; things are moving pretty fast and changes are already anticipated. So we have the time study department set up a preliminary cost against our predetermined figure. This comparison shows the labor and material costs that the time study and production engineering departments have authorized and the difference between this cost and the predetermined figure. This information goes to methods, operations, and chief engineers; also to the factory manager and general manager. The final tool cost is reported at the same time. If the engineering department has overrun the estimate on this item it may be necessary to add to the part cost an amount sufficient to absorb the additional tool cost over the expected production period.

Thus, we have at the earliest possible date, figures that indicate how the job will probably look when actual costs come through the accounting department. It is not feasible to wait until an actual cost is brought through before making changes in tools, methods and materials, when the preliminary cost is obviously out of line with the figure forecast. The engineering department may bring through two or three preliminary cost exhibits before the accounting department sets up its first actual cost; it is natural that the engineering

department is anxious to have that first actual cost no higher than the predetermined figure, and much feverish work is done in the first days of a new job. The production engineer does not particularly relish the accountant telling him that a part running through the plant, in large quantities at a small profit margin, has eaten up all that margin during the first few weeks of production and cannot possibly get out of the "red" before the next model change. He tries to avoid this unpleasant possibility by staying one jump ahead of the job from the cost angle.

With the typical job in full production, we find that the engineering department continues its contacts with the accounting department by sending through blueprint changes of parts, material specifications, and job specification changes. All wage payments have been authorized to the accounting department by means of rate authorization cards showing that operations are to be paid for at certain rates according to one of three plans: group, piece work, or day work. The routing sheets show the burden center for each operation and the point of payment. All changes in wage payments and routing are sent to the accounting department immediately. In group operations, the time study department analyzes the productive and non-productive labor requirements and payments are authorized by means of group prices. Any change in an individual operation within the group is reported to the accounting department as a change in the group price.

Accounting is now in a position to bring through actual costs. In doing so they will have checked materials as to actual usage and are sometimes able to suggest changes in specifications to reduce costs. This includes materials such as enamels, lacquers, etc., on which the accounting department establishes unit costs. As the job progresses, variations creep in, and the accounting department reports all variances from standard, in the form of off-standard operations, losses, errors, and defects. These reports guide the production engineer in further efforts to put the actual cost in line with his predetermined figure.

Other reports show the operations of the groups as to earnings and whether or not the non-productive allowances in the groups are correct as outlined in the original group price.

Tool and equipment costs have already been reported, and the upkeep of tools and equipment is shown as part of the engineering department budget. Charges accruing from faulty engineering and

change of design are also reported in the same manner, as well as all operating expenses of the department.

The accounting department issues regular reports on the standing of all large equipment changes and the installation of new machinery. The amount expended is shown against expenditures estimated by the engineering department and the savings are reported above or below the estimates.

The accounting department is able, at times, to present figures on many parts of a similar nature, showing, by comparison, that certain unaccountable discrepancies must exist in our manufacturing methods, or in the setting of rates. Thus, operations that have escaped the notice of the manufacturing and engineering departments are brought into line with those of established practice.

To keep any business alive, the engineering department must continue to develop and maintain products. Labor, in terms of average earnings per hour, is not fixed, but offers less possibilities, in the problem of manufacturing at required costs, than the intelligent use of methods and equipment for producing parts that are suitably designed and analyzed as to their economic status.

Production engineering is based largely on the application of tried and proven formulae or empirical data, mixed with a good, stiff dose of common sense and tempered with plenty of experience. Much of the engineering information used in producing a part is the sum total of many individual experiences in many different methods of manufacturing. As this information is used successfully, it becomes another standard or basis for future operations.

Thus, we have an ever increasing fund of knowledge for future use. Insofar as this knowledge is backed up with reliable cost records, we are able to expand and progress. The accountant may not know what the engineer can do in the future, but he should know, from his accumulated figures, what has been done in the past. With these figures as a basis, he is able to predict, with the engineer, what is possible to accomplish in the future.

To forecast the probable economic status of a product is not merely an interesting problem; it is essential to the future life of a business. To record the actual status of this product is a vital function, and no business can live long without such knowledge. Engineering and accounting contribute not only to the forecast, but also to the final recording of its accuracy in terms of earnings. Their functions are closely interlocked. We have discussed them as they exist in one

plant; without question, certain responsibilities might be shifted to correspond to set-ups in other plants. But the job still remains and requires for its completion a functional inter-dependence between accounting and engineering closely resembling the outline given herewith.

CHAIRMAN CRUSOE: I am sure that Mr. Skinner's paper brings out very clearly the fact that there must be some agency in the business to record the difference between what you expect to do and what you actually accomplish, and to get that information timely enough so that changes may be made before the profit has gone out of the job.

The other member of this team, who will talk on the accounting side of the inter-dependence of engineering and accounting, is J. A. Wilson, resident controller of the Fleetwood Body Corporation. I take great pleasure in introducing Mr. Wilson.

THE FUNCTIONAL INTER-DEPENDENCE OF PRODUCT ENGINEERING AND ACCOUNTING

J. A. Wilson,

Controller,

Fleetwood Body Corporation, Detroit, Michigan.

THE modern accounting organization furnishes business with a record of actual cost and profit performance. It also provides a guide for future cost objectives which, if carried out, will accomplish the profit requirements of the business.

Product engineering, as the term implies, designs the product and determines the method used in manufacturing. These two engineering functions carry responsibilities with them which are very important to the successful operation of the business. The product must be designed and produced to meet sales demand as to appearance, usefulness, mechanical excellence and, in addition to these responsibilities, manufacturing methods must be devised to turn out the finished product at a cost which will allow the profit required by the business.

There is a close relationship between the engineering of product and accounting, and it is natural that there should be since each is

fundamentally concerned with profit as an objective. The inter-dependence of these functions has been brought about through the experience of industry in the solution of manufacturing problems.

In this paper I would like to bring out the present relationship of these two functions, and the need for this inter-dependence in the future as it will affect the financial possibilities of industry.

A glance at the history of industrial growth emphasizes the need for coordination of effort of engineer and accountant in the solution of present and future problems.

Prior to the present business recession, there was a period in which many new ideas were developed for manufacturing, which gave us improved operating conditions and a better product.

During this period, there was an almost constant demand for more volume, which was responsible for part of this development. Engineering was expanded beyond the field of bettering the product. Plants were built and rearranged, new machines were invented, and elaborate tools were designed to build the product in less time, so that volume demand could be satisfied. The lowest production volume at which these developments were efficient was a secondary consideration, because the prevailing demands on production were of sufficient quantity to dispel any doubt as to the advisability of going ahead with such projects.

There is probably no other industry in which this development was so marked as in the automobile manufacturing business, which has gone through a continuous process of transition and expansion since a car was first manufactured some thirty years ago.

In order to illustrate the scope of this development, it is easy to go back and visualize the first open car bodies. These were built almost entirely of wood construction. Each year they were improved as methods were discovered for making metal panels by hand to fit the contours of the body. About 1909 dies were developed for making some of the panels of steel where the shape was not too difficult. The trend changed to closed bodies, and due to the fact that window openings and roofs took so many curves and cut-outs, it was necessary to go back to old methods and build the covering for these bodies by hand. Engineering development soon produced dies for making these difficult panels. Gradually, the general shape of the body changed to a more streamline effect with exterior covering of steel, and with moldings attached to hide the seams where the parts were joined together. Finally, welding machinery was designed which, together

with more elaborate dies, made it possible to turn out a closed body, completely covered with steel, with joints mechanically welded and concealed.

With the perfection of closed body construction, there naturally followed the trend to more elaborate interiors, which involved the use of hardware, artistic in design and more complete in mechanical qualities.

The entire manufacturing process has been just as progressive in its development. Years ago, two or three men would carry enough stock into a corner of the plant, or to a machine, to work on for more than half a day. Now, the production is all arranged in stations where the assemblies of the product are continuously moving in order of proper sequence.

The use of more machinery and material handling equipment has changed the ideal layout for a plant. The buildings, themselves, have had to be changed to provide proper ceiling height and other dimensions. Floors have had to be changed to carry a different load, and lighting has been rearranged to concentrate at the points required. Specialization of certain activities has resulted in buildings designed purposely for the activity, such as a plant for the press work on metal. This requires unusual ceiling height to accommodate the movement of steel by cranes, and exceptional floor load capacity for heavy machinery and steel storage.

In our business, the plant is not simply a building to house machinery, but is a vital part of our manufacturing equipment and must be rearranged from time to time in order to give us the most economical production layout.

Although there was a continuous increase in fixed investment during this period, there was naturally a saving in cost attendant with these new developments. The cost reduction was sufficient to result in an increase in the ratio of earnings to investment. Neither the accountant nor the engineer was particularly concerned at the time with the facts as to whether or not these new developments were responsible for the lower cost. All of these changes have been made during a period in which annual volume has been increasing almost continuously.

In the last two years, the volume of business has been curtailed to such an extent that serious thought has had to be given to the present investment in plant and equipment. Now, we are questioning whether we have over-developed our plant and mechanical facilities

for manufacturing the reasonable volume we can expect in the near future.

We have come to realize that engineering developments alone were not responsible for our cost reductions, but that large volume, with plant facilities working almost to capacity, was the major influence. With profits slim as they are today, a common phrase is "give us more volume and we can make the desired profit." Statistics will show that normal business, averaged over a term of years, is equal to only about 60% of peak capacity. To operate a business at low volume makes the problem of maintaining profit requirements very difficult, due to the increasing proportion of fixed charges to be written off against each unit.

This problem is of such serious consequence to industry that it will require a more closely welded relationship between engineer and accountant than has ever existed before. Neither can be effective in the solution of present difficulties without a closer conception of the plans and cooperation of the other.

The product engineering, in our particular business, although overlapping to some extent, can be divided into two major organizations. One is concerned with the development of plant and equipment layout, and the other with the design and manufacture of the product.

Our accounting activities are divided into two groups. One is engaged in the recording of figures necessary to the regular routine of business, including the preparation of balance sheets, income statements, and other historical data, while the other deals in futures, such as budgets, forecasts, sales prices, and income when certain volumes are attained.

The accounting sections dealing with historical data and the plant development engineering group are closely connected in their regular routine. This relationship has necessarily come about through experience in yearly changes of production methods and plant layouts.

The development of plant layout, which includes the addition, demolishment, and rearrangement of assets, is very important to accounting records if property records are to be kept accurate as to changes in assets and depreciation charges.

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earned and, therefore, must be given pertinent consideration in the engineering of the product.

To insure proper consideration, and a complete analysis from every possible standpoint on the part of those officials who make decisions on such matters of development, and to insure a proper record of the changes in plant layout, a study is made of each proposed change by the engineering and accounting departments together.

This study covers the details as to the purpose and amount of the expenditure, description of work to be done, values of additions or reductions of assets, and the amount of charges to operations.

The request is further supported with individual cost estimates and blue prints of each part of the work to be done. When all this information is complete it is submitted to the proper officials for approval.

From this request, as approved, the engineering department proceeds to issue purchase orders or shop orders to do the necessary work involved. The orders are issued so that new construction and cost of repairing or removing is not included in one figure. This practice is a distinct benefit to the accounting department in determining the amount of such charges to be capitalized.

This plan is also an advantage to the accounting department from the standpoint of forecasting expenditures, operating costs, and cash requirements.

With all this information at hand, the business is able to control the additions to investment as well as the charges to operations for depreciation and obsolescence which necessarily arise through the development or alteration of plant facilities.

Before going into the matter of cost with regard to the designing of the product, it would probably be better to give you a brief outline of the tie-up between engineering and accounting records as they originate and are carried on during the course of production.

When a new product has been approved for production, the engineering department issues drawings of the parts, together with a parts list and an assembly list. These specifications show the size and description of the part, the kind of material it is to be manufactured from and also the combination of parts that make up an assembly.

The purchasing department uses these specifications as authority for parts or raw materials that are to be purchased outside, and the production planning engineer uses them for parts that are to be manufactured in our own plant.

Material costs can be calculated accurately from these specifica-

tions because the purchasing department buys only what is specified. The accounting department maintains records which are a tie-up between the stock purchased and the stock specified. These records enable them to use the bill of material as it is issued by the engineering department. A few materials, however, have a range of substitution which is regulated accurately and is taken care of in the cost set-up by a standard rate allowance, based on past performance. An analysis of these variations from standard is prepared for the engineering department.

The planning section of the engineering department specifies the size to be used for fabricating parts in our own plant as well as the labor operations to be expended. There is strict adherence to the specifications in manufacturing, since there is no stock available unless it is specified and subsequently purchased.

The time study section of the engineering department furnishes piece-work and day-work time and rates for the payroll department to effect the wage payment. In turn the payroll department reports the variations from standard labor daily to the engineering and production departments.

As the specifications are changed, engineering change notices are circulated so that the accounting, purchasing, and production departments are working with current records of material and labor at all times. This practice makes it possible for the accounting department to calculate the cost of obsolescence of materials and labor resulting from changes in specifications requested by the customer, so that action may be taken at the time the change occurs. Accounting and purchasing departments are also able to effect a better control of inventories, particularly as they are affected by inactive or obsolete stock.

Up to this time, we have discussed the relationship of the historical accounting activities to the engineering of plant and product. The most important job for both the engineer and the accountant in the immediate future will be to design a product and a plan for plant arrangement which will make it possible to manufacture the product at the desired profit. There is no longer any need for worry concerning our facilities for producing volume. We realize that we have the plant capacity, fixed charges, and all.

There is probably no way of getting any relief from these charges at this time. Therefore, it is necessary to look to some further means of cost reduction, and considering the present stage of advancement in manufacturing methods, time studies, labor efficiency plans, and

wage incentives, it would seem that this field has been pretty well combed for possibilities of lower cost.

Our accounting department, in the last few years, has taken on a comparatively new function. We are now most concerned with the forecasting of operating costs, sales, and income. We are continually building up studies of sales prices and profits. With lower indicated volume to work on, tool and product development cost has a more serious effect on the profits than in former years. Since this is a responsibility of the product engineer, a close relationship between the engineer and the accountant in planning the design, specifications, and manufacturing methods for the product will have a favorable effect on the cost of tools as well as development cost.

As an example, let us take the manufacturing of a cowl panel for a closed body. There is the metal, covering the front end of the body from the hood back to and completely around the windshield frame. The part can be manufactured in two different ways. One is to make a hardwood form, reinforced with hardened steel, which is in the exact shape of the part desired. The metal is placed over the form, and after being clamped down tightly, it is hammered by hand to the shape of the form. It is then taken out and filed over the entire surface to remove the hammer marks. This process would cost approximately $3,000.00 for the form, and $12.00 per unit for labor.

The second process would be to design heavy stamping dies, in which the flat sheets of metal would be placed and stamped out automatically. This method requires detail drawings, patterns and templets, purchasing of a heavy casting, and the labor of cutting and finishing the faces of the dies to the dimensions of the drawing. In addition to this, they must be tried out by running several pieces of metal, with subsequent checking of dimensions, and further honing and finishing of the die faces. The total cost of the dies as completed would approximate $45,000.00. The cost to run a part after the tools were complete would amount to $1.00.

Although the labor cost in producing shows a tremendous saving for the stamping, the entire cost of the part can only be determined by giving consideration to the cost of tools for each process as distributed over the volume to be produced. In this particular illustration, the cost per unit of the part made by hand would be less than the cost of the stamping at any point up to a production of 3,820 units.

Let us assume that the selling price of this particular stamping is necessarily fixed by our competitors, which is the condition in the

majority of cases today. The accountant knows the mark-up of profit he must have on cost, and likewise the per cent of profit to sales. He, therefore, reduces the sales value by the amount of the profit and fixed charges, and the remaining figure is turned over to the engineer as the cost allowance.

With this amount, the engineer must build the tools and the product. The quantity of parts to be manufactured would be the guide for determining the complement of tools and the line-up of labor operations.

The time study section would estimate the cost of labor operations, considering different complements of tools, and would decide on the most economical method.

The accounting department would furnish the engineering department with burden rates by production centers. Material specifications would be calculated, and, combined with the labor and burden, would give the engineer a conclusion as to whether he could produce for the desired amount.

If this product could not be engineered to the point where it was comparable with cost requirements, it might be necessary for management to refuse this business entirely.

At this point is where the accounting department should be prepared to advance a sound recommendation. They have the over-all picture of profit expectations for all other production volume, and can show what effect the acceptance of this product will have on the profit for the business in total. It might be to an advantage to accept such a product, depending of course on the effect this added volume would have in the absorption of fixed charges, and considering also the ratio of loss on this product to the profit on the remaining volume.

An analysis of each product should be made along this same line by the accountant and the engineer, and in doing so, a volume forecast should be used that is reasonable to attain.

The engineering department should be in close contact with the accounting department in each decision made, and the accountant should familiarize himself with sufficient engineering technique to be able to understand the problems of development so that he can be in a position to advance recommendations as the work moves along.

With the knowledge acquired from such a relationship, the accountant will make himself a more valuable part of the organization, and engineering will complete its program with more effectiveness.

If the product design, tool and die construction, plan of manufacturing, and plant facilities are all developed and established with a comprehensive view of cost allowances, based on a volume that can be reasonably expected, then and then only will the accounting and engineering departments have properly executed their functions to the satisfactory operation of the business.

CHAIRMAN CRUSOE: We have a few minutes to spare for discussion, if anyone has any questions he would like to advance regarding any of the three papers.

MR. JOSEPH A. LENZ: I would like to ask the engineer what his viewpoint is on using standard material costs in building up estimates that he is going to have on these parts as compared with the old method of actual costs.

I would like to ask the man who gave the paper on purchasing what he believes will happen to the purchasing departments as we now understand them. Will they just fade out of the picture because of contracts that you will be able to make for the delivery of material direct to your floor? If you can't show where you can save by having a purchasing department, there just won't be one.

I wonder if I could have those two questions answered.

CHAIRMAN CRUSOE: Mr. Jones, did you get Mr. Lenz's question? As I get it, it is that the purchasing departments as we now know them will practically disappear and the purchasing departments will take on an entirely different function.

MR. V. W. JONES: In answering Mr. Lenz's question, I believe if the majority of our purchasing departments do not adopt a new idea regarding purchasing and actually work themselves up to a point where they are a necessary function of the business and thereby an element in the saving of costs, they will disappear.

The trouble with the majority of our present purchasing departments is that they are nothing more or less than a medium for placing orders. However, for the purchasing department to function efficiently and to justify its existence in any organization, it must have the same relationship to the business as both the engineer and the accountant explained here this morning. In other words, its

purpose should be to save cost in the acquirement of materials. If it does not serve that purpose, its existence is not justified.

CHAIRMAN CRUSOE: The question you were asked I believe, Mr. Skinner, was; What would you say as to your success in using a standard material cost as compared to trying to get the day-to-day actual costs? Are you experiencing any difficulty in determining the so-called standard material costs?

MR. S. E. SKINNER: In answer to that, I would say this—that we feel we are getting the best results by figuring the materials as they actually run and using losses for scrap allowances, which in that particular kind of product have been shown in the past to exist. I think that is the best way I can answer that question.

CHAIRMAN CRUSOE: Does that answer your question?

MR. LENZ: Yes, quite well.

MR. F. R. FLETCHER (*Partner, Scovell, Wellington & Company, Boston*): I would like to ask Mr. Skinner a question. In connection with the relation of sales engineering from the standpoint of product lines and so forth, is it better to maintain a separate sales engineering group to design a product, or to combine that with the one engineering department which he has outlined?

MR. S. E. SKINNER: I feel that the sales department should have men who are known as sales engineers, who in their more immediate contact with the respective customer can bring in information which, by working with our production engineers and designers, can more intelligently bring about the design of the product to meet the demand. I feel there is a necessity—certainly a use—for a division between the two departments, the sales engineer in the one and the production engineer in the other, rather than to try to do it all in the one.

MR. F. R. FLETCHER: How far would you go in that sales engineering design of product? Would you build a model?

MR. S. E. SKINNER: You would go only so far as to have the sales engineer contact immediately or directly with the designer or the production engineer. You would not have a man sent out, for

example, to actually design it himself, although it is possible to do that.

Does that answer your question?

MR. FLETCHER: Yes.

CHAIRMAN CRUSOE: Are there any further questions?

I would like to ask you to be here promptly at two o'clock.

SESSION VI

HOW THE ACCOUNTING DEPARTMENT MEETS THE REQUIREMENTS OF THE MANUFACTURING EXECUTIVE

THURSDAY AFTERNOON, JUNE 16, 1932

LEWIS D. CRUSOE, *Chairman*

Bayard D. Kunkle was graduated from Pennsylvania State College in 1907 with the degree of Bachelor of Science in Electrical Engineering. In June, 1908, he received the degree of Electrical Engineer from the same institution. He is a member of Phi Beta Kappa and Delta Upsilon fraternities. He entered the service of the United Electric and Valley Traction Company as plant electrician on June 15, 1908, and served in that capacity until December 31, 1909. Mr. Kunkle then entered the employ of Westinghouse Electric & Mfg. Company as engineer, and continued with this company until May, 1916. After he resigned from the Westinghouse Company, he immediately took up duties as superintendent and chief engineer with the Caskey-Dupree Company at Marietta, Ohio, where he remained until 1922. He returned to the Westinghouse Company at Springfield, Massachusetts, and entered the Automotive Engineering Department at the Westinghouse, East Springfield Plant, in April, 1922. On December 1, 1922, Mr. Kunkle assumed the duties of assistant superintendent in charge of the manufacture of automotive electrical equipment. He resigned from this position in March, 1925, and assumed the duties of supervisor of the Klaxon Horn Division of the Remy Electric Company at Anderson, Indiana, on the coinciding date. He served as supervisor of the Klaxon Horn production until August, 1926, when he was transferred to the recently formed Delco-Remy organization unit at Dayton, Ohio. He was appointed assistant general manager of the Delco Products Corporation in November, 1929, and general manager on January 1, 1930, in which capacity he has continued until the present time.

W. C. Reese was born in Danville, Pa. From 1922 to 1927 he was with the General Motors Corporation at its central office in Detroit. In 1927 he became associated with the Delco Light Company, Dayton, Ohio, and in 1929 he was made resident controller of the Dayton office of the Delco Products Corporation, which position he now occupies.

George E. Smith was employed in the credit department of Gimbel Brothers, Philadelphia, from 1916 to 1917, during which time he was also a student in the University of Pennsylvania. His college work was suspended from 1917 to 1919 while he served with the 28th Division of the U. S. Army in France and Belgium. Returning to the Wharton School of Finance of the University of Pennsylvania in 1919, he completed the evening course in Accounting and Finance, in 1921. From 1919 to 1924 he was auditor of the Budd Wheel Company, Philadelphia, Pa., and from 1924 to 1927 he was auditor of the Budd Wheel Company and the Edward G. Budd Manufacturing Company of Detroit, Mich. From 1927 to 1929 he was president of the Pointe Printing Company, Detroit, and specialized in accounting systems and standard forms. Since 1929 he has been assistant to the vice president in charge of manufacturing of the Kelvinator Corporation, Detroit.

J. J. Timpy was graduated in higher accountancy from the LaSalle Extension University, Chicago, in 1923. From 1922 to 1927 he was controller of the Kelvinator Corporation. From 1927 to 1929 he had charge of the factory accounting, branch accounting and budgetary system of the Kelvinator Corporation. He was controller of the Kelvinator Corporation—Leonard Division from 1929 to 1932, and since June, 1932, he has been assistant controller of the Kelvinator Corporation, Detroit, Michigan.

L. J. McCarren was born in Cincinnati, Ohio, and lived in that city until he had completed his high school education. In 1917 he moved to Detroit where he completed a three-year course in Commerce and Finance at the University of Detroit. He returned to that University in 1929 as an instructor in cost accounting. His business experience has been in the cost accounting field in the motor industry, he having been, in turn, associated with the Hudson Motor Car Company, Dodge Brothers, and for the past twelve years with Fisher Body Corporation. At present he is Auditor of Factory Costs with the Fisher Body Corporation, Detroit, Michigan.

HOW THE ACCOUNTING DEPARTMENT MEETS THE REQUIREMENTS OF THE MANUFACTURING EXECUTIVE

PRESIDENT-ELECT BULLIS: We now come to the last session of our national meeting.

Last evening at the banquet, Dr. Sanders appropriately thanked the local committee, under Chairman Joe Lenz, for the splendid job they have done and I would like now to officially thank the four men who constituted our program committee and who have so earnestly striven to make these technical programs so valuable. This committee which has been planning and working since early last fall on these technical sessions is headed by Phil Warner, Chairman. The other members are Eric Camman, who was the chairman on Tuesday, Howard Greer, who was the chairman yesterday, and our friend, Lew Crusoe, who is today's chairman.

Is Phil Warner in the room? Will you bring him up, Eric? I want to officially thank him for all the good work he and his committee have done in planning these fine technical sessions. Mr. Warner is one of the hardest working men we have.

. . . Mr. Warner came forward . . .

PRESIDENT-ELECT BULLIS: On behalf of the officers and directors, Phil, I want to thank you for the fine technical sessions we have had.

Now without further ado, I am going to turn the meeting over to Mr. Crusoe. Ladies and gentlemen, will you give him a hand? He is the new Vice President of the National Association of Cost Accountants. Mr. Crusoe!

CHAIRMAN CRUSOE: I will try to take up where we left off this morning and continue the plan of showing the relation of the accounting department to the other departments of business. We have five speakers this afternoon. We have two teams who will

talk on, "What the Manufacturing Executive Requires from the Accounting Department" and "How the Accounting Department Meets These Requirements." Then we have a final short paper on "Accounting as a Basis of Production Control."

The first speaker, whose subject is, "What the Manufacturing Executive Requires from the Accounting Department," is B. D. Kunkle, General Manager of the Delco Products Corporation of Dayton. Mr. Kunkle is also President of the Foremen's Club of Dayton.

I don't know how much that means to some of you, but Dayton is the cradle for foremanship training. The idea and the plan of foremanship training has spread throughout the country.

I take great pleasure in introducing Mr. Kunkle.

WHAT THE MANUFACTURING EXECUTIVE REQUIRES FROM THE ACCOUNTING DEPARTMENT

B. D. KUNKLE,

General Manager,

Delco Products Corporation, Dayton, O.

I DO NOT come with the idea that I can bring to you any special information in connection with the art of cost accounting, because it is an art. In accepting the invitation to be here today, I do so feeling that it is rather a matter of putting myself on the spot, which I like to do occasionally, and in doing so try to deal briefly with the problems as they face us in our manufacturing operations.

Product Cost Practice

Not many years ago, in the operation of a manufacturing plant, the only time the manufacturing division actually knew their status, financially, was when the annual inventory was taken, and it was then determined as to whether or not the company had made a profit or suffered a loss. With the introduction of more extended and more accurate accounting methods, this situation has now completely reversed itself, so that the manufacturing department is guided almost daily by information from the accounting department which indicates the current trend of the manufacturing program or suggested changes

which need be made promptly to bring all phases of manufacturing operation to an adjustment consistent with development and productive requirements.

Control of Investments

This change in the accounting procedure has brought about many economies in manufacture which are only possible through close and accurate control figures. This change is not accidental but is made necessary in the face of the present variations in design of product, and rapid changes which take place in current designs, as well as the introduction of new designs and new products. The close control of inventories also makes possible much more satisfactory return on a smaller investment and provides a greater flexibility in meeting changing customers' requirements.

In the limited time available, it is not possible to go into details as to all the information which the manufacturing department requires, and even in our enumeration we will attempt to list only the more essential requirements of the chief manufacturing executive as to accounting information. To conserve time, and also as a matter of convenience, we will assume we are dealing with an operation which is complete as to:

1. Plant
    a. Equipped
    b. Operating
2. Product
    a. Developed
    b. In Production
3. Organization (Mfg.)
    a. Complete
    b. Functioning
4. Sales
    a. Established Product Schedules
    b. Increasing or Decreasing Schedules

Fixed Expenses

Based on this general assumption, the manufacturing department is concerned with those elements which go to make up development, product and maintenance costs. For the first of these it is necessary to know the property value and the established rate of depreciation, maintenance costs, and accumulated reserves; second, equipment,

amount and rate of depreciation, and the average cost of maintenance and retirement reserves. It is also necessary to know fixed charges, such as taxes, insurance and plant protection, service charges of the employee and medical departments and similar service, all of which go to make up or cause the items of cost which are of a fixed nature.

There may be some questions in the minds of some of you as to whether or not it is essential that the manufacturing executive have knowledge of such items as property valuation and depreciation as well as equipment valuation and depreciation. Inasmuch as these are relatively fixed items, it may be said that they do not concern the chief manufacturing executive at all.

Quite to the contrary, it is essential that the manufacturing executive have information which permits the proper planning, either in the introduction of new products or in extensive changes in old ones. Where such changes are made the simplest thing, of course, is to call for new buildings and new equipment, but where undepreciated investment exists, in either property or equipment, it is necessary that the use of such investment be given chief consideration in setting up expansions in, or modification of, existing manufacturing programs. It is a well-known fact that many concerns today find themselves with fine buildings on their hands, as well as extensive unused equipment, because this matter was not given proper consideration before going ahead with expansion programs. I have in mind one specific instance that might convey the idea more clearly. I remember an instance where a requisition was put through and a special four-way drill was ordered and purchased at a cost of approximately $5,000, and after analysis it was shown that the application where the particular tool was required was on the basis of forty units, forty operations per day, and if the total overall operation is done in a far less refined way the total labor involved is far less over the entire life of the unit than the cost of the machine itself.

That is perhaps a rather limited and homely illustration, but nevertheless it goes to show how essential it is that the manufacturing executives have information of the nature I mention available to them in considering their manufacturing problems.

In considering a new product, the easiest thing to do is to forget that there may be equipment available. While such equipment may not be the last word in meeting ideal production requirements, new equipment would represent an investment which available production

does not justify, when a proper comparison is made between such new equipment and equipment already available, and only partially depreciated.

Development and Processing

An essential part of product cost itself is the expense relative to development and processing. This development falls mainly under the classification of product engineering and the process engineering for its production. Regardless of what the fluctuation of the actual business may be, from seasonal causes and otherwise, the items of development and processing have to be dealt with primarily with a view to future operations, rather than the immediate present, and the type of product and volume of the business determine largely the appropriation for these two items. When once established, the essential requirement from the accounting department is advice as to the progress of expenditures on this work to see that the expenditure is justified by the progress made.

Product Costs

In our present-day manufacturing situation, particularly as this condition has been augmented by the present sharp economic changes, most manufacturing executives are watching very closely the standard factors of product cost, namely, labor, material and burden, and in our discussions today it is our aim to deal primarily with these items which are most vital in a going manufacturing operation.

Labor

In dealing with the labor it is necessary that the manufacturing executive have consistent information as to established labor standards, also as to additions and reductions that may be required in these standards due to variations in design or material.

It is necessary that labor rates be constantly checked to see that they are consistent with the class of labor required on a given type of operation, as well as to see that they are kept in step with wages paid by other manufacturers in similar industrial operations. The constant following of departmental earnings is necessary, especially where wage incentive plans are used. Unbalanced earnings between departments can quickly result in dissatisfaction of individuals which is soon reflected in unsatisfactory work. Following of departmental earnings is also essential to avoid allowances where improper flow of material or incorrect studies produce unsatisfactory earnings.

While in most manufacturing organizations the actual setting of standards is done by the rate department, the actual statistical records, which show the result of the rate department's work, are the records of earning as prepared by the accounting department.

Material

The item of material must be constantly watched because of fluctuation in price. Material price changes necessarily affect the product more quickly where close inventories are held and it is for this reason that it is necessary for the manufacturing department to be kept constantly informed as to any changes in material prices, particularly as they may affect established manufacturing costs.

The sales department must be kept advised regarding changes in prices which may affect the selling price, and the source of this information is necessarily from the accounting department or cost department. It, therefore, becomes a function of the chief manufacturing executive to see that such changes in cost are closely followed by way of the records furnished him from the accounting department.

It frequently becomes necessary to make a change in material because of more severe requirements in service than were originally anticipated in the design of a device, and inasmuch as prices are usually established in advance of such a development, it immediately becomes a problem of the manufacturing department to see what can be done, where processes are standard, to offset the loss, where such arises. For illustration, some months ago excessive failures of one of the parts of a device we are manufacturing indicated that some change be made promptly. After a study of the situation the engineering department recommended that this part be made from chrome nickel alloy steel instead of the standard 1035 steel which was being used. This change meant a substantial increase in the price of the unit, and, in view of the fact that it was already being sold rather closely, made necessary a complete restudy of its cost. With the combined help of the engineering, manufacturing and process departments, it was found possible to make savings in the cost of the unit which were approximately equivalent to the increased cost which was caused by the change.

Unfortunately, in most cases, changes of the nature mentioned involve increased material costs, so that adjustments must be made elsewhere, either in cost or in selling price, to make up for the material

price change. With the close control over labor standards, and a careful following up of material prices, the overhead is the product cost factor which usually gives the manufacturing executive most concern, and which requires most careful following.

Variable Expense

As stated before, the development phase of this overhead item is more frequently made a definite amount, and this amount is governed either by the normal volume of business anticipated, or amount necessary to develop new products, so that the development expense is seldom interfered with, unless acute conditions develop. Operating overheads, however, which fall largely within the class of variable overhead expense, constitute the phase of operation which receives perhaps most constant and serious attention on the part of both accounting and manufacturing departments.

Additional Men

Unless some guide or check is furnished to subordinates or departmental supervisors it is very easy to have additional men in a department with their time or labor charged to expense, thereby throwing the departmental balance between overhead and direct labor out of the established ratio. The same thing holds true of materials. Some measuring stick must be provided which will indicate the correct usage of materials in relation to the labor hours, which in turn is indicative of the material usage in relation to product.

It is here that it is most difficult to retrieve expenses that are overrun. It does not take long to put on additional men in a department, which may entirely upset the expense factor which has been set up for the department or, without supervision or proper control, to use expense materials in such a way that a very serious overrun may happen which upsets your cost and upsets your entire operation. It is for that reason that we come more and more to establish closer controls.

For this purpose, definite standards are established for given operations, and it is quite well known that fluctuations below this standard will result in increased cost and possible loss, if not kept consistent with the current production volume.

Vehicle—Budget

The vehicle by which this control is accomplished is commonly called the budget. Operations which exceed the standard volume

usually can be so handled as to run an over-absorbed or credit in the established overhead rate. Unfortunately, there are very few of us at the present moment who find ourselves in the latter situation, and for this reason the operating or variable overhead is the item on which most consistent and most accurate information is desired.

There are many situations which develop entirely unanticipated and which require prompt action in dealing with this overhead operation.

Charts

At this point we would like to call your attention to two charts which represent approximately a situation that developed in 1930, as applied to our own manufacturing operation. Over the first six months of the year a certain average rate of production was realized, but toward the close of this period it was evident that the volume was definitely reducing and that there was little likelihood that the average volume for the first six months would be maintained for the balance of the year. Chart 1 shows the labor trend. In order to maintain established product cost it then became apparent that some adjustment in the overhead or expense operation would have to be made. Instead of proceeding with these adjustments in an unstudied way, making the necessary changes or reductions promiscuously, complete study was made on the basis of a revised operation standard which indicated the amount of adjustment necessary, both in our variable and non-variable expense items, to keep the operation in balance.

Chart 2 shows the operation as it was set up on the volume anticipated and realized during the first half of the year. The dotted lines indicate the revision made in accordance with the analysis resulting from the drop in productive labor as shown in Chart 1. The advantage of this studied revision lies in the fact that such an analysis indicates the amount of adjustment necessary in each department in order to maintain a balanced organization.

Owing to the recent act of Congress, a tax on refrigeration equipment became effective on June 21. In this particular case all goods in the hands of dealers and accounted for was exempt from the tax, so that electrical refrigeration manufacturers, for the most part, immediately upon passage of the Revenue Act of 1932 speeded up their production so as to get as much material into the hands of their dealers as could be legitimately placed there. This, in some instances, involved setting up entire June schedules into the brief space of 2½

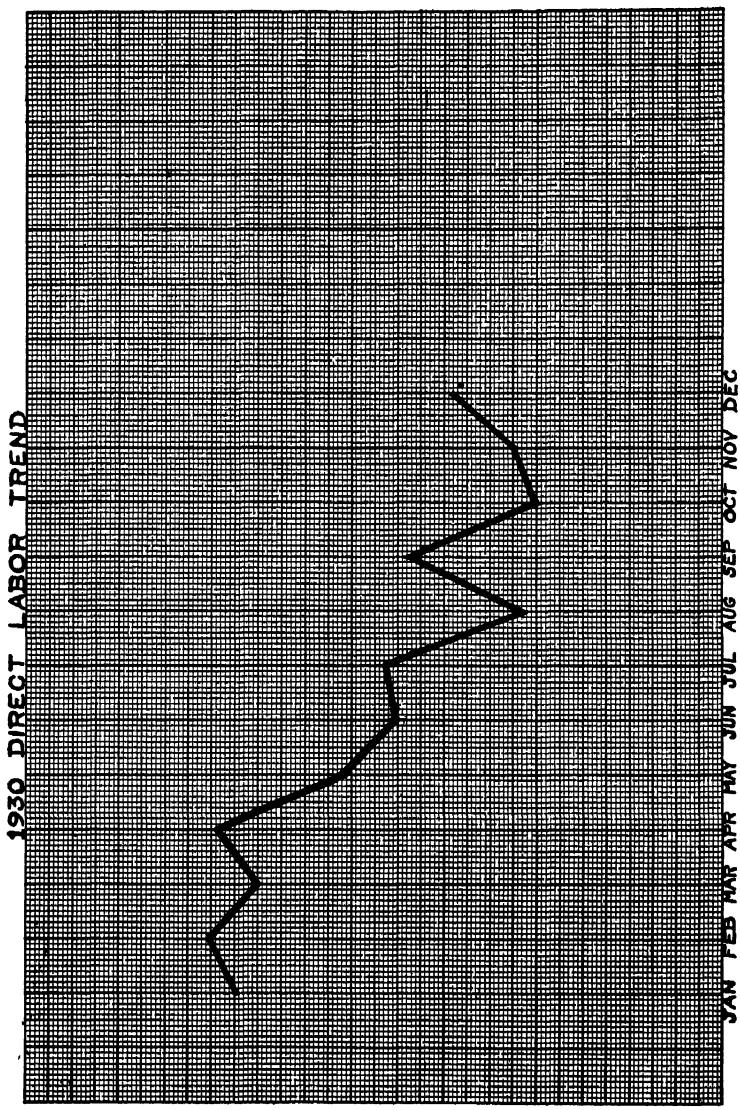
1930 DIRECT LABOR TREND
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
KEUFFEL & ESSER CO N. Y.

CHART 1

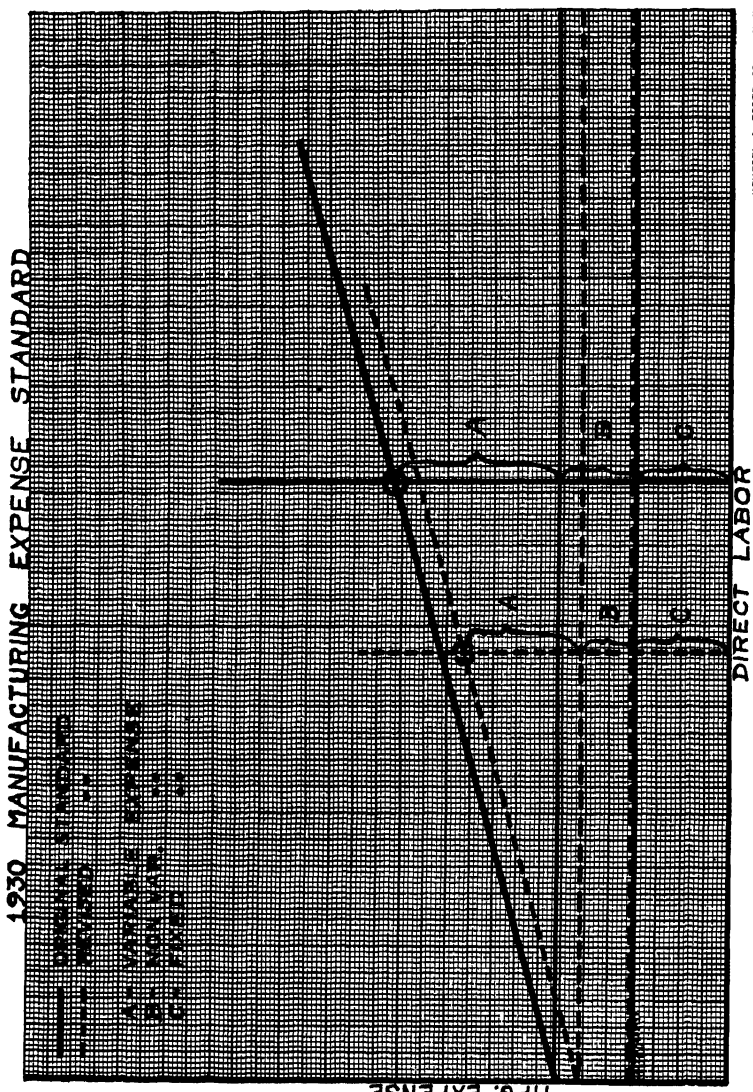
1930 MANUFACTURING EXPENSE STANDARD
ORIGINAL STANDARD
REVISED
A-VARIABLE BUDGET
B-NORMAL
C-FIXED
MFG. EXPENSE
DIRECT LABOR
A
B
C
KEUFFEL & ESSER CO N Y

CHART 2

weeks, and in other instances actually including the July schedules in this readjustment. The resulting situation means that for the first three weeks of June enormous pressure for production was put on supply manufacturers in this industry, and that for the balance of the month, and for succeeding months, requirements are either indefinite or washed out entirely. This leaves a most difficult situation in the hands of the manufacturing department and it is necessary to have the most accurate guidance that can be obtained through the material control and accounting departments in order to establish what would be the most satisfactory policy for the operating division. This makes it much more essential that the accounting department have set up not only accurate but flexible means for furnishing the manufacturing department at least an approximate picture of what this change in the manufacturing situation may indicate, so that adjustment can be made in advance of the actual situation rather than to allow it to develop to the point where operating expense, as continued, results in a loss which can not be retrieved.

In a recent address by Mr. L. D. Crusoe of your organization, he drew a parallel between the operations of the accounting division and the management of an organization, comparing them with the functions of a navigator in the operation of a ship, and in the case of the subject which we are discussing here this simile may be most aptly applied.

The accounting department, functioning properly, is a source of guiding information that I like to think of in the light of a personal experience in my own boyhood. It happened in the early years of my life; my daddy was the village blacksmith, and in those days the use of automobiles and electric lights was little known in the country districts. In the winter time, when the weather turned suddenly cold, it was a signal to dairymen and farmers to have their horses shod rough for traveling on smooth and icy roads, and at these times it frequently happened that the rush in the old village shop would find dad and his help working into the late hours of the night. Being but a boy I could not be of any great help, but my particular job was holding the lantern, which, in itself, was important for doing the work under these conditions. At such times my dad used to say to me before he would start to nail on a shoe, "Now son, you hold the lights so you can see, then I can see too." I am sure you get the parallel.

The accounting department today that is functioning as it should in the operation of a manufacturing plant is holding the light in such

a way that it not only sees clearly the course the institution is taking financially, but is also directing the light so that the executive, responsible for the operation, can see clearly the course that he must take in its management.

CHAIRMAN CRUSOE: That was a very wonderful paper. Personally, I am very grateful to him for it.

The next speaker will be W. C. Reese, Controller of Delco Products Corporation, who, as Mr. Kunkle explained, is the man who holds the light in his business. Mr. Reese will show how the accounting department intends to fulfill the requirements of the manufacturing executive.

I take pleasure in introducing Mr. Reese.

HOW THE ACCOUNTING DEPARTMENT MEETS THE REQUIREMENTS OF THE MANUFACTURING EXECUTIVE

W. C. REESE,

Controller,

Delco Products Corporation, Dayton, Ohio.

IN the paper just presented on "What The Manufacturing Executive Requires From The Accounting Department," we assumed certain conditions:

1. That we have a plant equipped and in operation as a going concern.
2. A product developed and in production.
3. A functioning organization for the manufacture of the product.
4. An estimate of the sales volume and sufficient experience to forecast the seasonal trend of sales.

The first thing the management wants to know is the estimated per cent of return on investment, which is governed by the amount of profit realized from the estimated sales volume.

Since we have assumed that we have a going concern, certain items affecting the return on investment are known:

1. Capital invested.
2. Fixed charges.
3. Material and labor in costs.
4. Administrative and commercial expense.
5. Development expense. (This amount will have to be determined by the management.)
6. Operating expenses.

There may be variations in the cost of material and labor due to fluctuating commodity prices and labor conditions, but for the purpose of forecasting the year's operations we feel that we can estimate them closely enough. In order to control operating expenses we feel that a budget is necessary. For the purpose of illustration, we will use the following figures:

Let us assume that the management has given us a sales index volume of $6,000,000 for the ensuing year and our desired return on a $5,000,000 investment is 20% or $1,000,000.

Our first step is to set up a Profit and Loss forecast for the year as follows:

Sales		$6,000,000
Cost of Sales:		
Direct Material	$1,440,000	
Direct Labor	960,000	
Burden	1,920,000	4,320,000
Gross Profit		$1,680,000
Deductions:		
Administrative & Commercial Expenses	680,000	
Unabsorbed Burden		680,000
NET PROFIT		$1,000,000

It can be seen from the foregoing that, knowing our direct material and labor cost and administrative and commercial expense, if we expect to reach our goal of $1,000,000 net profit, we would add all of these together, substract the sum from our sales and have a result of $1,920,000, which would be our burden allowance on that particular sales volume.

We next determine whether our organization can produce this volume on the amount of burden allowed.

To better control the burden, we divide our yearly forecast into monthly units resulting in:

Sales		$500,000
Cost of Sales:		
Direct Material	$120,000	
Direct Labor	80,000	
Burden	160,000	360,000

This shows that our total burden allowance is $160,000 per month at $80,000 direct labor, or 200% Burden Rate.

In our final budgets the direct labor and burden are kept separate by departments and account classifications.

What foreman knowing his department as he should, is not in a position to greatly assist in establishing his departmental expense budget?

Our classification contains nine major accounts with several subdivisions under each classification. All foremen have been schooled in the various accounts and realize the necessity for making proper charges.

Each sub-account is thoroughly analyzed by the foreman and budget representative. This analysis covers operations in the past, together with any functional changes anticipated or already passed on by the management, which will affect his department. These accounts are set down departmentally as being either variable, non-variable or fixed. An explanation may be given of the indirect labor account and the method of accumulating the departmental totals. The first item, for example, is Supervision on Salary, and is put in the class of non-variables, because it does not fluctuate with production volume. The second item is Supervision on Hourly Rate, such as job foremen, foreladies, etc. If production decreases there should be no need of these people, or in case of increase above standard volume, they would be required to work extra time. This class of help is therefore in the variable class and is set up accordingly.

Conditions in every concern are different and accounts which would be variable in one plant might be non-variable in another. It is sufficient to say that careful calculation is essential in segregating these various classes of accounts.

Best results are obtained by allowing the foreman or supervisor to set his budget with your assistance.

The time has not yet arrived when a foreman can be forced into something he knows is impossible. If he is left under the impression that he set his own budget, he will do everything in his power to exceed estimate and operate under it. In your favor you have the record of his previous performance and unless he can give legitimate reasons why an increase should be allowed on any item, he should be satisfied with your standard. If properly handled, he will usually agree on a lower operating margin than is his previous record.

When our totals are complete, we submit them to the management for approval. In reviewing the figures, the chief executive may not, for instance, be satisfied with the amount allowed for engineering development or tool work.

If every other item has been pruned to the limit, it is at this point where a decision should be made by him regarding the following alternatives:

1. Plan on getting more business. (Revision of budget necessary.)
2. Limit the work he suggests increasing.
3. Reduce personnel.
4. Be content with less return.

Assuming that he approves of the total budget as presented, we are in a position to show him how fluctuating volumes of production will affect the unabsorbed burden account due to the non-variable and fixed amounts.

If our expense was 100% variable, then we could apply our standard burden rate to direct labor which would absorb all of the burden providing all departments operated according to the budget.

As it is, we establish our burden rate based on our budget at index volume and we never absorb at more than this rate in our costs. For instance on the chart—Exhibit "D"

(a) Represents our burden rate.

(b) Represents our budget.

As long as we operate at index volume, our burden rate absorbs all burden.

When we operate at point "H," even though we are within our budget, our standard burden absorption in our costs is at point "J," therefore the difference between "H" and "J" is unabsorbed burden or a loss to our gross profit.

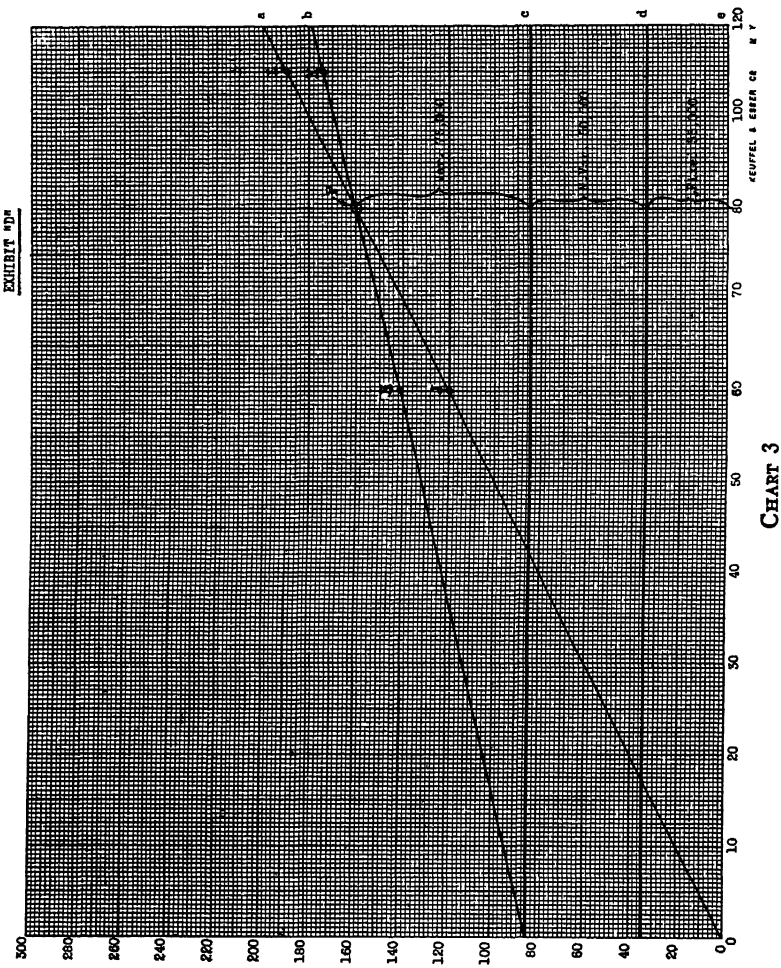
EXHIBIT "D"
a
b
c
d
e
KEUFFEL & ESSER CO.
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
0
10
20
30
40
50
60
70
80
90
100
120

CHART 3

When we operate at point "K" which is considerably more than index, we are absorbing burden at point "L," the difference being over-absorbed burden or an addition to gross profit.

Therefore, if our production goes above or below index during the months of the year, as long as we average index for the year and operate within the budget, our forecast of profit and loss will be accurate.

If we discover during the year that our production will not average index for the current year, the management understands what steps will have to be taken, in the way of reducing expense, to meet the new standard, which also means a revision of all departmental budgets.

The final step in controlling our expense so that the total will not exceed the budget is to place the responsibility of control according to the division heads, supervisors and foremen, who set up their budget. Some foremen even go so far as to make different job foremen and group leaders responsible for various items of expense.

At the beginning of each month, the sales schedule, for that month, is interpreted in terms of departmental direct labor and the departmental budgets are computed according to their original standard.

If, for instance, the direct labor in a department is expected to reach 75% of the original monthly index, the expense allowance would be 75% of the original variable expense plus the non-variable and fixed expense. This estimate is sent to the foreman on the first of each month to be used as a guide in planning his activities.

Our sales estimates, while controlled to a great extent by outside influences, have proven sufficiently accurate for a month to enable the foreman to use the estimated budget as a safe guide where his expense materials are concerned.

Analysis has developed the information that our expense labor is a uniform percentage of our total expense each month and we feel that if we can control it, the total will result within the prescribed amount.

We therefore issue a daily labor budget which operates as follows:—

1. Daily departmental direct and all expense labor is turned into the budget department the morning after the day it occurs.
2. Daily budgets are calculated from the percentage of this direct labor to the total monthly standard.

3. Daily non-variable amounts are figured by dividing the total monthly non-variable by the number of working days in that month.
4. Expense is posted against the proper account.
5. Both the budget and expense are accumulated on each day's report so the departmental head knows each day how he stands up to that time.
6. Variances are shown on each account.
7. Daily budgets are in the hands of the foreman by late afternoon of the day following the expense.

On the fifteenth of the month he is also given a material budget and expense report for the first half of the month based on his direct labor for that period. This gives him an opportunity to correct any excessive material expense before the end of the month.

As previously stated, expense labor is the largest portion of our total expense and any changes in schedule are reflected immediately in the daily labor budget. The foreman also uses his daily report to keep a closer check on his material, as it shows whether his direct labor is increasing or decreasing and he acts accordingly.

We do not place the entire responsibility on the foreman for keeping his service and maintenance accounts within the budget.

In setting up the original budget we determine what portion of each one of his outside labor charges will be made by the different service departments. Taking a total of these amounts for all departments and using the average expense rate of the departments performing the service, we know how many hours should be worked in each. This hour or man budget is set up at standard and computed daily. For illustration: Suppose the machine repair budget for all departments totals $10,000 per month at standard and we have one department doing that work. The average rate of this department is 50c, which amounts to 20,000 hours allowance at standard. This indirect department is then budgeted on an hourly basis so that if our total direct labor for the month only amounts to 75% of standard, this department should have only enough men to charge out 15,000 hours during the month.

It would not be just to have each foreman trying his best to hold his machine repair account down and allow the machine repair department to maintain a full force of men who would have to find some place to charge their time.

Under our system, due to circumstances, some departments will be over and others under their budgets on these accounts, but by controlling the total number of men working, we are assured of our total on this account being under.

In this manner, we have the foremen of the service group being partly responsible with the foremen of the direct departments for the total budget on service accounts.

The foreman of an indirect service department has two budgets to control. He must first control his departmental expense budget, and second, his budget on hours charged to other departments.

Our daily control sheet shows us at once which service department has too many employees and gives the management ample opportunity to take action along lines which will assure a proper expense figure at the end of the month.

In the foregoing remarks, I have not attempted to cover all the classes of information required of the accounting department by the management. There is a great amount of statistical information vitally necessary to successfully operate any business. I feel, however, that if we are able to supply information daily that will enable the management to control manufacturing or overhead expense, we will fulfill one of the most important functions of the accounting department.

CHAIRMAN CRUSOE: I wonder if we can't have a little discussion now, following these papers. I am sure Mr. Kunkle or Mr. Reese will be glad to elaborate on any particular part of this paper that you are interested in. Are there any questions?

I wonder if anyone would like to have Mr. Kunkle or Mr. Reese explain how they get at their non-variable expense, and how they fared with their non-variable expense over the past year. Do they have their non-variable expense on a shut-down basis or on some given volume basis?

MR. L. C. FREEMAN (*Budget Director, Ternstedt Manufacturing Company, Detroit*): I noticed Mr. Kunkle had his losses account. He showed a fixed amount for losses. Do you believe in budgeting fixed amounts for losses there? Do you believe there should be a fixed element?

MR. B. D. KUNKLE: I believe there should be a goal which is in definite relation to the product cost. Especially as to whether or not a man who reaches his fixed goal can rest there, is a question

that naturally comes up. It will depend on how closely the matter is followed up. What we aim to do there is to give the man something to shoot at and follow him in such a way that he gets credit for what he does better than the goal which we set for him.

MR. WILLIAM C. BOYLE (*Accountant, Fisher Body Corporation, Detroit*): I have a question I would like to ask Mr. Reese. At what point do you expect your management to attain your authorized variable rates? Is it an index volume, or a volume below that, or what volume?

MR. W. C. REESE: I might explain, for the purpose of this illustration, I consider the index volume as standard volume. The variable should be controlled at all volumes.

MR. BOYLE: Should your management be penalized for a variable offered which might be setting an unattainable standard? I am trying to find out at what point the variable rate should be attained, at 30 per cent of the index volume or standard volume, 40, 50, 60 or 100 per cent.

CHAIRMAN CRUSOE: The question, Mr. Reese, I believe is this: that it isn't possible to have your actual overhead costs exactly fall on your variable line. As business begins to shrink it becomes increasingly difficult to hit the mark. How far do you expect your business to go down that line before they are excused from departing from it? What is your yield point on that, if you want to put it that way?

Is that the question, Mr. Boyle?

MR. BOYLE: Yes.

MR. REESE: This chart shows what we had to do in 1930. (See Chart 2 on page 274.) We started out according to a certain index volume. We got down to the point where we were controlling our variable expense, but we were still having unabsorbed more than we should, so we cut a certain amount out of our non-variable expense. It is just up to the management to determine. If we drop below standard volume we have to be reconciled to a certain amount of unabsorbed burden. So it means adjusting your standards. I don't know where you would set that figure.

MR. B. D. KUNKLE: I think I might probably inject a thought there. One of the things that show up is that if you are not working at standard and actual, unless you have very close control or unless you make adjustments in the burden and in the budget consistently, your operating expense will get over the line. That goes without saying. Assuming you go below the standard of actual, unless there are economies other than figured economies, you have an expense that runs under-absorbed. It is true we will, in our organization, probably run 25 per cent below that standard of actual before we really feel the effect seriously. At that point we begin to feel the lost profit because our expense is too high. It is then we start a systematic adjustment of the situation.

I didn't mention it a while ago, but Mr. Reese has actually just handed me an analysis of the present situation, similar to the one we put through in 1930. That wasn't fictitious; that was actual. The point is, it depends on how far you are willing to have the profit suffer before you make the entire adjustment. The variable expense sheets that are sent out to the departments are based on the productive labor, so they are held in fairly close control. The point at which you make adjustment in your non-variable depends on how far you are willing to let your profit shrink.

Does that answer your question?

MR. BOYLE: Partly so.

MR. G. M. ARISMAN: We operate on very much the same plan that has been presented here. I would like to say that we have a variable allowance for different absorption of expense, which is constant. That constant is determined as a standard, at the point of absorption. That standard, of course, is fixed at the time we set our expense standard or our expense budget for a particular situation or a particular period. That is, if, when we today pass our budget of expense, it would be considerably lower than during the past three or four months, we would determine our standard for some future period, based on our expense budget forecast in the future, and that standard would then be set at our point of absorption.

We would determine our variable total at the point where we absorb fully our expense, so that we would get our expense standard at the absorption point, which then becomes a constant, and that variable allowance serves until we again change our standard. As

long as we are operating within our budget, there can be no variation from those standards, because we must meet our standards.

Is that clear?

CHAIRMAN CRUSOE: Yes. Thank you.

I think we all must recognize that there is hardly any item of cost that we can single out that is wholly fixed or wholly variable. Practically all of our items are fixed in character, so that an item might be wholly variable at point of production, but you could go far enough down the line so that it practically becomes non-variable.

Business cannot be committed to arithmetic.

I think we will have to proceed with the rest of the papers. The two following speakers are going to talk about the same thing that Mr. Kunkle and Mr. Reese talked about, but will probably present some different practices.

Our first speaker is George E. Smith, assistant to the Vice President in Charge of Manufacturing of the Kelvinator Corporation. Mr. Smith is a graduate accountant and a former charter member of the Philadelphia Chapter. He has deserted the rank of accountants, so to speak, and gotten on the production end now, where he can speak his views on the accountant.

I take great pleasure in introducing Mr. Smith.

WHAT THE EXECUTIVE OF THE PRODUCTION DEPARTMENT REQUIRES OF THE ACCOUNTING DEPARTMENT

GEORGE E. SMITH

Assistant to the Vice President

Kelvinator Corporation, Detroit, Michigan

MOST accountants will answer this question quickly and briefly by saying, "90% of the works managers really don't know what they want." I agree with them that this statement is in part true. However, nearly every works manager's opinion as to the type of reports he should receive from the accounting department is different. On the other hand, there is very little agreement among accountants themselves as to the manner in which information and statistics should be issued to the operating executives.

The first job of the man in the shop is to make use of the statements rendered, so it should also be the accountant's first thought to give him the particular type of report he wishes. The accountant can then point out what he believes to be the flaws in the works manager's report, and make suggestions for improvement. If the accountant is wise, he will allow the works manager to "kid" himself into thinking that he (the shop man) actually designed the type of report submitted. Don't "buck" him. First give him what he wants, gradually educating him so that later he will ask for what you believe he should have. In short, make him "lead" to you.

The opinions of works managers may differ greatly as to what type of report they want, but they are in perfect agreement as to when they want them. They are responsible for the tactics of the daily battle for lower costs and are little concerned with the long-term strategy of the directors who can obtain their ammunition from the monthly balance sheet and operating statements. The shop men want figures of this morning's operations this afternoon. Their job is concerned with the present.

These reports should be brief, concise and easily understandable —not a grand mass of figures that require a C. P. A. to interpret. Get the shop man's attention first with a simple statement, then follow up with details if he is interested.

Personally, I prefer figures presented in chart form, but this is merely a matter of opinion. By the proper use of charts shop operations can be graphically depicted in a manner that will hold the executive's attention and save him many hours of analytical survey of accounting reports.

On one section of the wall in the works manager's office is a group of charts. At a glance, the works manager, superintendents, and other executives obtain data on shop operations that would require hours of study of the usual accounting statements. The details of a few of these charts will be shown and explained later.

These charts should be supplemented with simple reports which can be easily understood. I have repeatedly made the assertion to our executives and accountants that with one-half hour's study of a good up-to-date set of figures, presented daily, an executive can find more losses and ways to cut cost than he could find in half a day of roaming around the shop. It is not my intention to give the impression that a works manager should spend all his time "shining his trousers" at a glass top desk, gazing over statements and charts.

He should get his "dope" quickly, then spend his time in the shop running down and correcting the various items the statements and charts have brought to his attention.

The accounting department, in addition to giving statements to the works manager, should also present daily to each superintendent figures covering operations in his own department.

As mentioned previously, statements should be presented daily, not three or four days late but, if possible, the next day, and at the very latest the second day following. In other words, a complete record of happenings in the shop on Monday should be presented, at the latest, Wednesday morning. Of course, in addition to these daily statements there should also be some weekly and monthly cumulative statements. The daily statements, however, should be the backbone of cost control in the shop. Monthly statements are all right for history and for setting up budgets, but are of little or no use in actual shop control. Furthermore, any statements of cost without a definite comparison with some other cost is also of very little value. Your costs are low because they are better than your competitors'. The same cost would be high if your competitors could make money by consistently underselling you.

In other words, the point I wish to drive home is the necessity for the setting up of budgets and predetermined or standard costs. The next speaker will tell you in detail how budgets are made up at the beginning of the fiscal year.

The budget should be laid out monthly in such a way that it will meet:

1. Sales requirements
2. Economical manufacturing conditions
3. Cash outlay for inventory
4. Shop capacity.

After the sales forecast is completed a chart, as shown in Illustration 1, details the trend of actual shipments against this forecast. Although the figures for this chart are not submitted by the accounting department, it is interesting to note how this chart ties in with the expense reports and expenditure record that will be discussed later. This chart shows at a glance the detailed unit shipments over or under the forecast.

ILLUSTRATION 1

The budget on expense items should be segregated into three classes:

1. Fixed overhead
2. Semi-fixed overhead
3. Variable overhead

It is not necessary to report fixed overhead daily. A monthly

ISSUED _____ 193__

DAILY EXPENSE REPORT DATE REPORTED June 16, 193 2

DEPT FACTORY EXECUTIVES NO. 82

UNIT BASIS

	DAILY			MONTH TO DATE			YEAR TO DATE		
	BUDGET	ACTUAL	DIFF	BUDGET	ACTUAL	DIFF	BUDGET	ACTUAL	DIFF
Salary	195 83	188 92	6 91	2545 79	1794 74	751 05	40145 79	38177 87	1967 92
Hourly		23 18	-23 18		199 55	-199 55		2254 86	-2254 86
Reworks									
Allowances									
Overtime									
Sub-Total	195 83	212 07	-16 24	2545 79	1995 29	550 50	40145 79	40432 73	-286 94
Small Tools					21 29	- 21 29		120 52	-120 52
Indirect Pro Mat									
Dept Supplies	2 08		2 08	27 04	95 10	- 68 06	427 04	2193 29	-1176 25
Mtc Supplies	6 25		6 25	81 25	6 38	74 77	1281 25	273 50	1007 75
Sub-Total	8 33		8 33	108 29	122 77	- 14 48	1708 29	2587 31	-879 02
Scrap	41		41	5 33		5 33	85 33	37 20	48 13
Tools, Dies, Gauges									
Tool Room Labor	2 08	4 25	-2 17	27 04	17 05	9 99	427 04	395 92	31 08
Mtc Labor	1 04		1 04	13 52	6 88	6 64	213 52	335 54	-122 02
Total Expense	207 69	216 32	- 8 63	2699 97	2140 99	540 98	42579 97	43788 77	-1208 80
Productive Labor									
Total Cost									
Pieces Produced		778			19526			87887	

COST PER UNIT

Salary	4700.00 Mo.	198.85 Da.	151	093	058	456	434	022
Hourly				010	-010		025	-025
Reworks								
Allowances								
Overtime								
Sub-Total			131	103	028	456	459	-003
Small Tools				001	-001		001	-001
Indirect Pro. Mat								
Dept. Supplies	50.00 Mo.	2.08 Da.	001	005	-004	005	025	-020
Mtc Supplies	150.00 Mo.	6.25 Da.	004	0	004	014	003	011
Sub-Total	200.00 Mo.	8.33 Da.	005	006	-001	019	029	-010
Scrap	10.00 Mo.	.41 Da.	0		0	001	0	001
Tools, Dies, Gauges								
Tool Room Labor	50.00 Mo.	2.08 Da.	001	001	0	005	004	001
Mtc Labor	25.00 Mo.	1.04 Da.	0	0	0	002	004	-002
Total Expense			137	110	027	485	496	-013
Productive Labor								
Total Cost								

ILLUSTRATION 2

statement of this item of expense should be sufficient. Semi-fixed and variable overhead, however, are the two groups that can "make" or "break" a company; therefore, daily reports on these two groups are imperative.

Illustration 2 is a type of report that gives a "birds-eye view" of the variable overhead compared with the budget. The budget on this report is a predetermined amount per unit. Therefore, variations in production are automatically taken care of in the budget figures. The unit in each department varies and one of the fundamental principles in setting up the budget is to determine the unit or "yard stick" to be used in each department.

An explanation is probably needed of the items on this statement of tool room labor and maintenance labor. These two departments are really service departments and are required to perform tool room work or maintenance work for any of the other departments that require it. The tool room superintendent and maintenance superintendent are each given a budget for a definite amount per unit. This budget is again subdivided over the various departments. The total of the department budgets equals the total of the tool and maintenance budgets. By controlling these two departments in this manner, we not only have the tool and maintenance superintendents watching their budgets, but also each department head in the plant is responsible for his own individual portion of this expense.

The accounts listed on this form cover the majority of controllable items of overhead, and each department head should receive daily (Monday's report not later than Wednesday) the complete statement. The works manager should be given a report on the grand total only, but at least once each week he should go over the departmental statements with his department heads, offering suggestions and generally stimulating interest in these reports.

Illustration 3 is the chart used in the works manager's office showing departments over or under the budget on non-productive labor. If this chart is kept up-to-date it is not necessary for the works manager to wade through each of the departmental statements daily.

Illustration 4 is the same type of chart showing the departments over or under the budget on supplies and small tools. We also maintain similar charts for scrap, tool room labor, and maintenance labor for our various plants.

The accounting department submits the figures, and the works

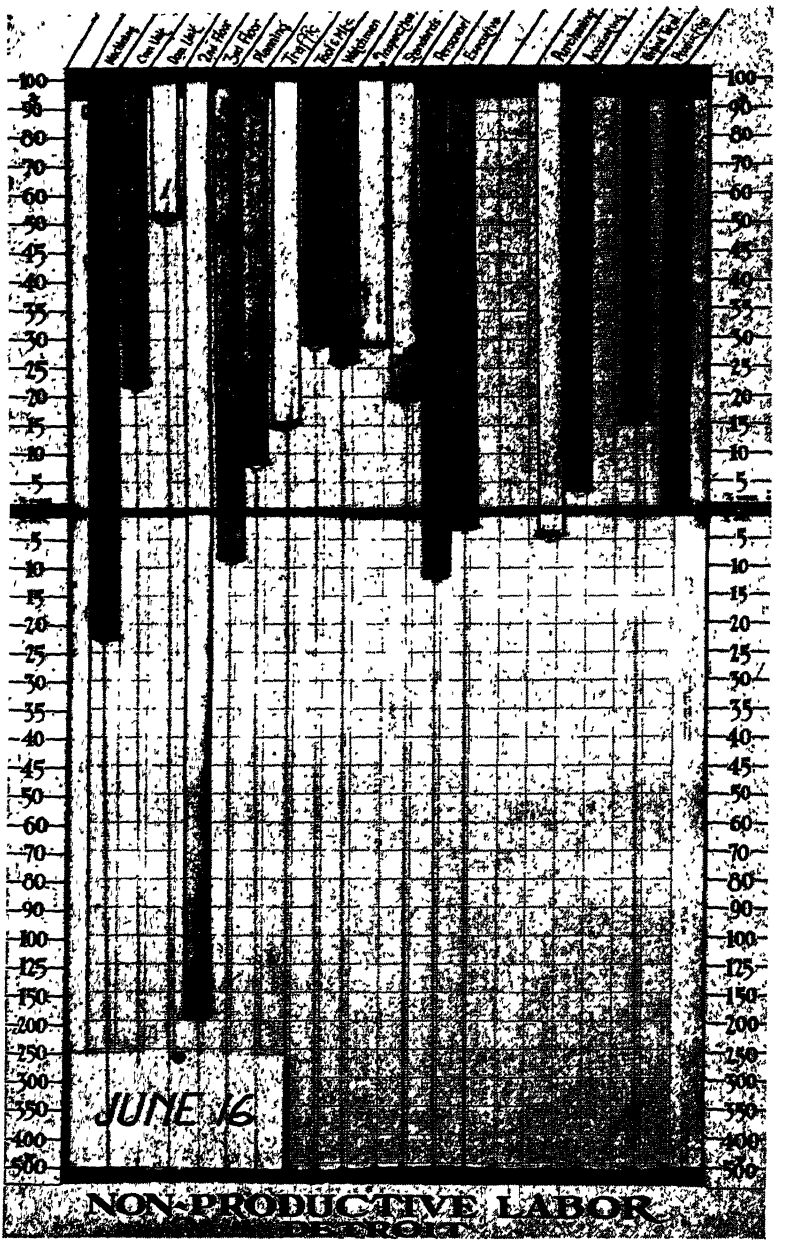

ILLUSTRATION 3

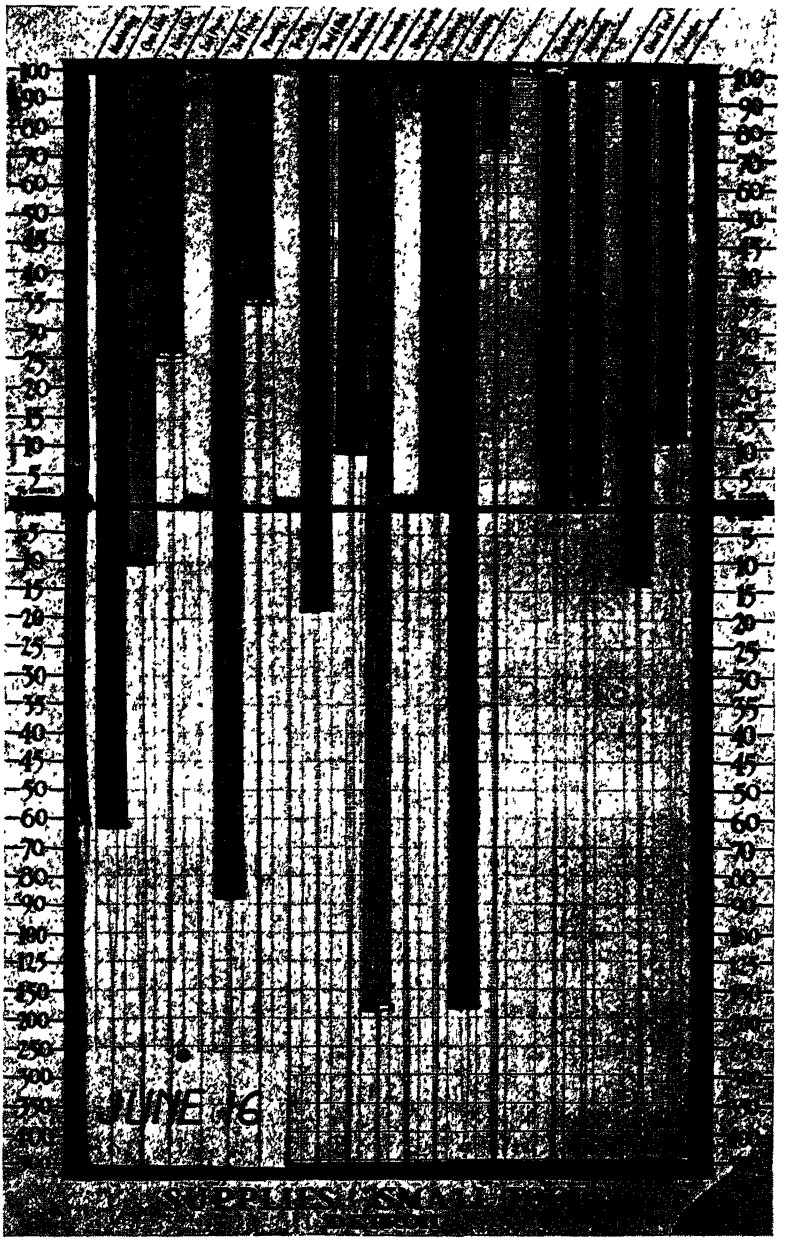

ILLUSTRATION 4

manager immediately "puts on the spot" the luckless individual who is over his budget.

I might also mention the fact that the accounting department must always have on hand all the requisitions for supplies and labor properly signed in case this luckless individual has occasion to doubt the accounting department's report. No items of expense can be charged against a department unless signed by the head of the department.

Departments requiring maintenance services merely telephone to the maintenance superintendent and request that the work be done. After the job is completed, the maintenance man requires the department head to sign a ticket, stating he worked so many hours in his department on a given job. This ticket becomes a bill chargeable to the various departments daily.

In case of an argument, the accounting departments should be able to produce these signed tickets to substantiate their charge.

The reports discussed thus far should be submitted the following day, but in addition, and in order to get information even more quickly, the works manager should receive a daily force report for productive, non-productive, and salary employees similar to Illustration 5.

The figures from this report are also shown graphically in the works manager's office on Illustration 6.

The number of employees allowed by the budget in each department for a given manufacturing schedule is shown on this chart in green figures. The actual number of employees "ringing in" is posted not later than 8:30 A. M. daily. If a department has more employees than allowed by the budget, the figure is posted on the chart in red. If it has the correct number of employees or less, the figures are shown in black. The works manager can tell at a glance the departments likely to run over the budget for any day unless corrective measures are immediately instigated. The budgeted number of men is on the basis of a given number of hours per day, and in order to control this time element employees are not allowed to work over the allotted time unless they obtain an overtime permit signed by their foreman and approved by the works manager.

In setting up the budgets and schedules maximum production per hour is maintained. In other words, if the maximum production is 50 units per hour and the schedule is 2000 units per week, the plant will operate 10 hours per day for four days per week. If the schedule were 1600 units per week, the plant would operate 8 hours per

DETROIT FORCE REPORT June 16th 1932

Dept. No	DEPARTMENT	Yesterday Hired	Yesterday Left	Productive In	Productive Out	Productive Tot.	Non-Prod. In	Non-Prod. Out	Non-Prod. Tot.	Salary In	Salary Out	Salary Tot.	Total In	Total Out	Total Tot.
11	Machine—Brass and Misc.			19	21	40				1		1	20	21	41
14	Punch Press			15	5	20				1		1	16	5	21
15	Commercial Unit Assy			14		14							14		14
17	Comm'l Comp. Mach. and Assy			23	2	25				1		1	24	2	26
20	011 Burner									1		1	1		
	Total			52	7	59				3		3	55	7	62
16	Domestic Unit Assy			43		43				1		1	44		44
18	Dom Comp Mach and Assy			122	15	137							122	15	137
19	Domestic Unit Repair			6		6							6		6
23	Diamond Boring			16	3	19				1		1	17	3	20
24	Seal			18	1	19				1		1	19	1	20
	Total			205	19	224				3		3	208	19	227
22	Sub Assembly			49	24	73				1		1	50	24	74
27	Ice Cream Cab Assy			13	1	14	1		1				14	1	15
28	Dom Cab and Water Cooler Assy			119	25	144				1		1	120	25	145
30	Domestic Packing			8		8							8		8
31	Export Packing			10		10							10		10
	Total			199	50	249	1		1	2		2	202	50	252
36	Tank, Boiler and Copper Tube Assy			110	29	139				1		1	111	29	140
39	Liquid Rec and Cond Assy			21	1	22							21	1	22
	Total			131	30	161				1		1	132	30	162
	Total Productive			606	127	733	1		1	10		10	617	127	744
51	Planning and Follow-up									18		18	18		18
52	Receiving						16	1	17	2		2	18	1	19
53	Stores						47	12	59	3		3	50	12	62
54	Warehouse														
55	Shop Trucking														
56	By Products						5		5				5		5
57	Shipping						43		43	1		1	44		44
58	Trucking and Delivery						4		4				4		4
	Total						115	13	128	24		24	139	13	152
67	Watchmen						8		8	2		2	10		10
69	Garage						1		1				1		1
81	Personnel									4		4	4		4
	Total						9		9	6		6	15		15
60	Tool Design									6		6	6		6
61	Tool Room						30		30	1		1	31		31
62	Tool Crib						1		1	1		1	2		2
63	General Maintenance						30		30	2		2	32		32
64	Steam Plant						7		7	1		1	8		8
68	Janitor						13	1	14				13	1	14
	Total						81	1	82	11		11	92	1	93
70	Inspection						71	9	80	5		5	76	9	85
71	Salvage						3		3				3		3
	Total						74	9	83	5		5	79	9	88
59	Traffic									2		2	2		2
80	Standards									7		7	7		7
82	Factory Executives									12		12	12		12
	Total									21		21	21		21
	Total Non-Productive						279	23	302	67		67	346	23	369
	Total Shop Divisions			606	127	733	280	23	303	77		77	963	150	1113
93	Timekeeping						7		7	2		2	9		9
94	Factory Payroll									4		4	4		4
95	Factory Accounting									25		25	25		25
96	Tabulating									7		7	7		7
	Total						7		7	38		38	45		45
50	Purchasing									8		8	8		8
	Total Non-Shop						7		7	46		46	53		53
	Total Charged to Overhead			606	127	733	287	23	310	123		123	1016	150	1166
97	Service Parts Stock						16		16	7		7	23		23
98	Service Repair						95	4	99	7		7	102	4	106
	Total						111	4	115	14		14	125	4	129
	Selling									179		179	179		179
	Advertising and Sales Promotion									46		46	46		46
	General Service									19		19	19		19
	General Office									108		108	108		108
	Engineering						7		7	57		57	64		64
	General Administration									9		9	9		9
	Total Commercial						7		7	413		413	420		420
	Grand Total All Divisions			606	127	733	406	27	432	550		550	1563	154	1717
	Productive % 43														
	Non-Productive % 25														
	Salary % 32 Total														

ILLUSTRATION 5

MONTH OF MAY - 1932 — PLYMOUTH PLANT — 800 JOBS PER DAY 5 DAYS - WEEK

DEPT	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	TOTAL JOBS	TOTAL BASKET	COMP 800	COST 100
BASKET	18	26	74			8	38	8	14	1	3	41	3	56	8	31	110	5				
1																						
2	18	19	58			7	54	4	10	1	5	32	2	39	8	15	87	3				
3	18	21	58			6	55	4	10	1	5	32	2	39	8	15	85	3				
4	18	22	58			5	55	4	10	1	5	32	2	39	8	15	86	3				
5	18	21	57			6	49	4	10	1	5	32	2	39	8	15	84	3				
6	18	21	57			6	49	4	10	1	5	32	2	39	8	15	84	3				
7	18	2	3				1		10	1	6	2	1	2	8		5					
8																						
9	18	20	57			7	45	4	10	1	6	30	2	39	8	14	82	2				
10	18	18	60			7	45	4	10	1	6	32	2	39	8	15	84	4				
11	18	19	60			7	46	4	10	1	6	32	2	39	8	15	81	4				
12	18	15	53			7	46	4	10	1	6	31	2	39	8	14	80	4				
13	18	13	53			7	31	4	10	1	6	32	2	39	8	15	81	4				
14	18	2	5				1		10	1	6	23	1	3	8	6	10					
15																						
16	18	18	60			5	35	4	10	1	6	30	2	39	8	15	81	4				
17	18	18	60			6	46	4	10	1	6	35	2	39	8	15	80	4				
18	18	18	61			5	46	4	10	1	6	35	2	39	8	15	82	4				
19	18	19	32			5	46	4	10	1	6	35	2	39	8	15	82	4				
20	18	15	53			7	46	4	10	1	6	31	2	39	8	14	80	4				
21	18	11	57			5	46	4	10	1	6	35	2	37	7	10	71	4				
22																						
23	18	18	60			5	46	4	10	1	6	35	2	35	8	15	80	3				
24	18	10	61			5	45	4	10	1	6	35	2	35	8	15	80	3				
25	18	18	62			5	45	4	10	1	6	36	2	32	8	13	77	3				
26	18	18	62			5	44	4	10	1	6	36	2	32	8	14	79	3				
27	18	17	61			5	44	4	10	1	6	35	2	32	8	13	79	3				
28	18	10	54			5	46	4	10	1	6	35	2	37	7	10	75	4				
29																						
30																						
31	18	18	60			5	46	4	10	1	6	35	2	35	7	10	80	3				

DEPT	19	59	60	61	62	90	91	92	539	93	94	95	96	80	97	98	TOTAL JOBS	TOTAL BASKET	COMP 800	COST 100
BASKET		2	7	4	9	96				13	4	26	8	8	25	110	187	1018		
1																				
2		2	7	5	15	81				9	4	24	7	8	23	102	649	830	660	837
3		2	7	5	15	82				9	4	24	7	8	23	104	652	774	680	890
4		2	7	5	15	92				9	4	24	7	8	23	105	664	767	680	848
5		2	7	5	15	92				9	4	24	7	8	23	102	652	767	675	819
6		2	7	5	15	90				9	4	24	7	8	23	105	653	741	670	824
7				4													63			
8	S	U	N	D	A	Y														
9		2	7	5	15	81				9	4	24	7	8	23	103	633	768	673	612
10		2	7	5	15	90				9	4	24	7	8	23	105	652	758	704	618
11		2	7	5	15	92				9	4	24	7	8	23	102	650	678	677	791
12		2	7	5	15	92				9	4	24	7	8	23	106	653	635	667	825
13		2	7	5	15	90				9	4	24	7	8	23	101	619	584	675	870
14		2	7	4	14	81				9	4	4	7	8	23	104	347	410	320	300
15	S	U	N	D	A	Y														
16		2	7	5	14	90				9	4	4	7	8	23	104	613	684	660	1035
17		2	7	5	15	92				9	4	4	7	8	23	104	632	664	661	996
18		2	7	4	15	88				9	4	4	7	8	23	104	594	678	674	990
19		2	7	4	15	92				9	4	4	7	8	23	104	597	627	661	991
20		2	7	4		92				9	4	4	7	8	23	104	651	631	650	753
21		2	7	4	15	90				9	4	4	7	8	23	104	506	546	600	740
22	S	U	N	D	A	Y														
23		2	7	4	15	90				9	4	4	7	8	23	105	624	648	811	824
24		2	7	4	15	92				9	4	4	7	8	23	105	618	652	1062	1186
25		2	7	4	14	88				9	4	4	7	8	23	104	614	659	672	797
26		2	7	4	14	87				9	4	4	7	8	23	102	613	660	680	750
27		2	7	4	14	90				9	4	4	7	8	23	103	613	659	695	780
28		2	7	4	14	90				9	4	4	7	8	23	106	603	635	630	750
29	S	U	N	D	A	Y														
30	D	E	C	O	R	A	T	I	O	N	D	A	Y							
31		2	7	4	14	92				9	4	4	7	8	23	104	618	671	704	618

ILLUSTRATION 6

day four days a week. The heavy black cross lines on this chart block off days on which the plant is not operating. The watchmen will not permit employees in the plant on these days unless the employee presents an overtime permit properly signed.

You will be told later in detail the various functions in the accounting department necessary in order to obtain this information which the chief executive in the production department requires, but I will say right now we have fewer employees in the accounting department today than we had before these reports were turned out daily.

Form Acc 14

DAILY EXPENDITURE REPORT

Division and Date Detroit - June 14th, 1932	This Day		Month to Date		Year to Date	
FACTORY						
Productive Material	24,844	58	140,688	73	2,762,174	65
Freight	664	76	4,643	42	33,273	65
Productive Labor	10,861	26	45,156	41	439,992	69
Permanents	275	00	1,213	40	50,324	29
Sub-Total	36,645	60	191,681	96	3,275,765	18
Factory Salaries	3,149	94	14,699	76	191,333	10
Non-Productive Labor	5,205	98	22,667	06	241,963	79
Indirect Material, Small Tools, Etc	289	33	3,663	47	92,888	33
Tools, Dies, Jigs, Gauges (Res Cost)			978	70	79,287	36
Fuel and Freight	158	10	628	49	12,285	96
Light, Water and Gas					50,598	36
Telephone and Telegraph					5,272	59
Traveling					11,169	94
Office Supplies (Factory Port)	34	39	189	45	3,827	35
General Factory Expense	-187	25	1,612	52	14,309	90
Total Factory Expense	8,650	49	44,459	42	702,936	65
COMMERCIAL						
Sales Expense	1,875	02	5,852	75	259,206	54
Advertising and Sales Pro. Expense	930	80	130,106	18	968,250	85
Advertising and Stationary Stores			115	13	2,177	15
Service Material	1,104	99	6,130	74	74,861	65
Service Labor Productive	1,323	16	5,907	65	76,251	48
Service Labor Non-Productive	599	27	2,579	30	29,906	59
Service Expense	279	79	3,199	16	38,485	55
General Office Expense	431	42	7,680	53	87,660	94
Administrative Expense	503	46	1,784	34	57,152	59
Commercial Salares ( )			58,508	15	807,980	78
Service Salaries	262	35	1,224	29	15,585	00
Engineering Salaries			9,337	65	121,420	39
Engineering Expense	-50	50	1,963	77	37,994	47
Total Commercial Expense	7,259	16	222,212	62	2,601,853	81
MISCELLANEOUS						
Customers' Freight	1,312	00	5,951	50	58,341	24
Export Freight to N. Y.	21	60	977	59	15,180	30
Charges to Reserve	1,324	50	12,665	24	142,392	96
Co-operative Advertising	825	90	29,060	07	174,216	28
Insurance			1,810	32	49,966	84
Deferred					2,150	00
Idle Plant			393	48	3,344	65
Other Income and Deductions	14	25	[illegible]	25	-22,806	39
Total Miscellaneous Expense	3,496	25	48,644	45	422,785	78
Total Expenditures	58,058	50	507,193	45	7,003,319	42
Units Produced						

ILLUSTRATION 7

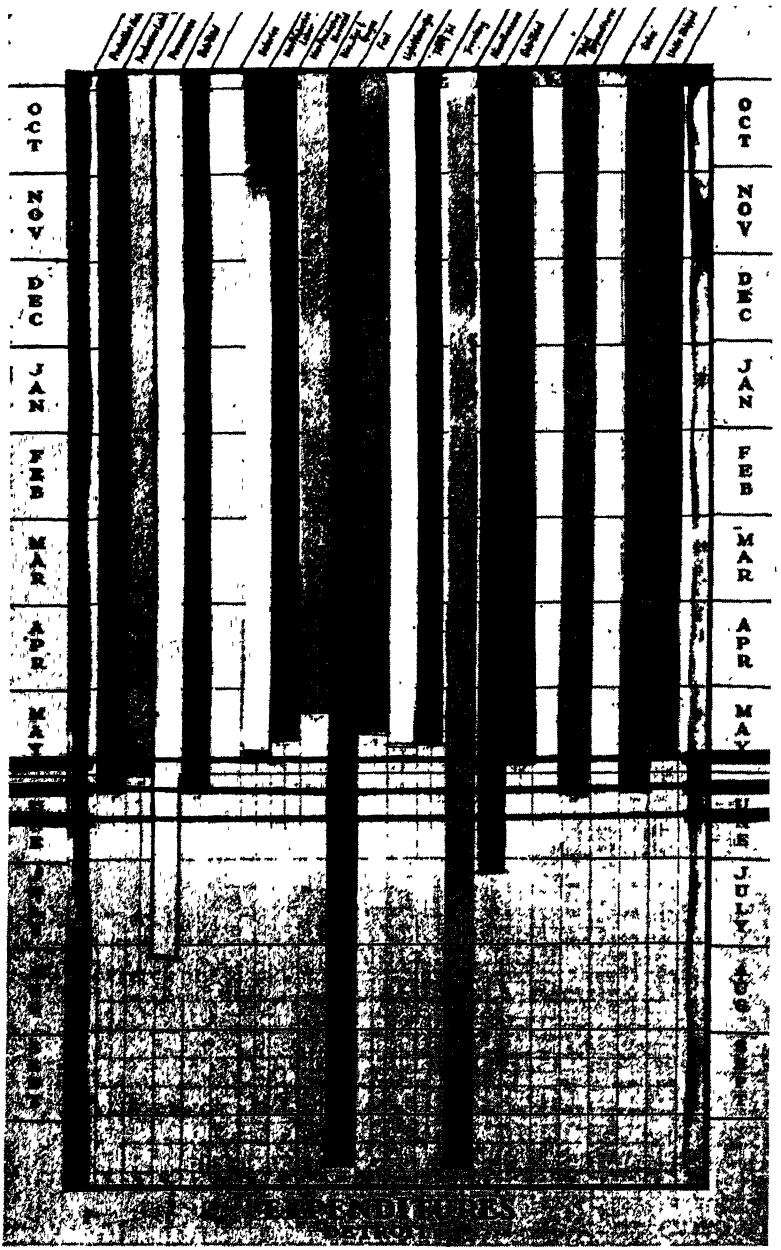

ILLUSTRATION 8

I have briefly sketched the reports on daily overhead, but, in addition, the works manager must also watch expenditures and inventory. The daily expense report showed expenditures for payrolls but the supply items are the amounts requisitioned from the storeroom. Therefore, another report is required showing the daily purchases of not only supplies, but all other purchase items.

Illustration 7 is a daily purchase report. The figures on this purchase report are not compared against the budgets on this statement, but by the use of graphic charts in the works manager's office this comparison is constantly maintained.

Illustration 8 is a sample of one of these graphic charts. As outlined previously a master budget has been set up for the year and merely by pulling the ribbons shown on this chart, it is readily determined whether or not an item is running over or under the master budget. This chart also shows the relation of sales and production to the original forecast and the relative trend of inventories and expenses. If the productive material ribbon shows below the production line, raw material stocks are too heavy. If the productive labor ribbon or units produced ribbon is below the shipment or sales ribbon, then inventories of process or warehouse material are higher than the amount set up in the forecast.

Illustration 9 uses the same figures but on a different type of chart. This chart shows a comparison, month by month, of the actual expenditures with the budget, and also a comparison of expenditures for the previous year.

The regular monthly statements rendered by the accounting department should balance with all these daily reports, but should be used merely for historical data. The daily reports, however, should be the real basis for financial control.

Productive labor figures are also required by the works manager. The cost of each unit shown on the sales forecast should be previously predetermined and set up as a standard. Our shop operates on a group bonus system. Each operation or group is allowed a standard time, and each operation is assigned a definite base rate. If a group takes twice the standard time to perform an operation its efficiency is only 50%. However, although the employee only received 50% of his base rate, the productive labor cost of a piece remains the same. In order to avoid labor troubles and maintain production schedules, it is necessary for the shop man to watch these efficiencies daily.

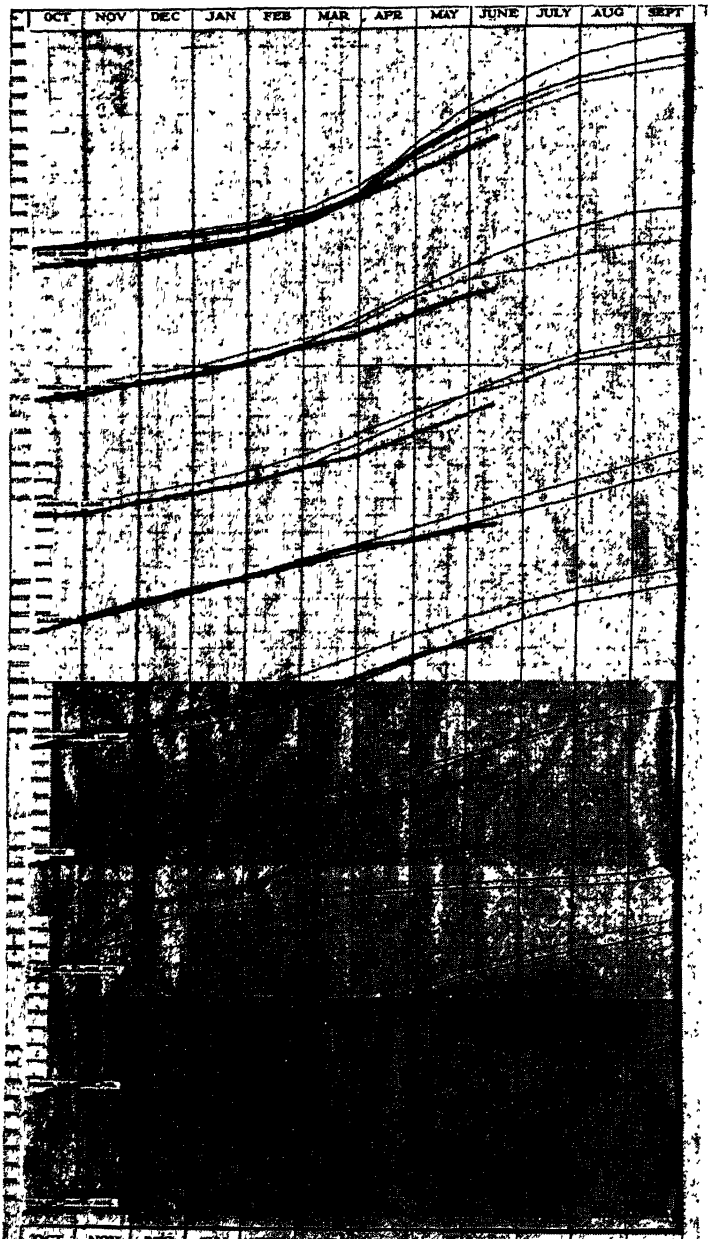

ILLUSTRATION 9

Illustration 10 is the type of efficiency report used and shows standard hours, actual hours, and the per cent of efficiency of each group.

The superintendent of any group showing less than 100% efficiency is also "called upon the carpet" and ways and means of increasing this efficiency are discussed.

Under the group bonus system it is also quite important that the average base rate be kept in line with the standard used on the predetermined cost. Therefore, at the end of each pay period a state-

DAILY EFFICIENCY REPORT

Date 6-14-32
Issued 6-16-32

Groups	Group Name	Daily Hours Actual	Daily Hours Std.	Cum. Hours Actual	Cum. Hours Std.	Efficiency Daily	Efficiency Cum.	Remarks
0501	Handling Lbr & Mat	153.1	172.6	752.3	811.9	112.7	107.9	
1001m	Shipping	138.6	174.3	1883.2	2604.6	125.8	138.3	
	Totals-Phillips-Div.	291.7	346.9	2635.5	3416.5	118.9	129.6	
5001	Dimension Mill #1	75.6	270.6	1028.7	1044.2	357.9	101.5	
5101	Machine Room #1	16.1	17.1	305.6	341.0	106.2	111.6	
5102	Dimension Mill #2	56.1	72.0	449.5	560.7	130.6	124.7	
5103	Machine Room #2	155.1	174.5	988.7	906.2	112.5	91.7	
5201	Wood Sub-assembly	148.1	210.8	1153.7	1106.7	145.3	95.9	
5202	Door Frame Assem.	43.0	49.2	328.8	441.7	114.4	115.4	
5602	Accessory Assembly	46.0	56.2	384.8	415.5	122.2	107.9	
5603	Can.&Det.Shipping	33.1	29.9	678.4	718.2	90.3	105.9	
5701	Insulation	50.0	44.9	625.9	702.3	89.8	112.2	
8407	Door Frame Paint	11.0	2.4	96.7	47.0	21.8	48.6	
	Totals-Grenstras-Div.	830.1	927.6	6094.8	6283.3	147.2	103.0	
6001	Pickle-Day Group	31.3	39.7	461.6	409.4	126.8	88.7	
6002	Pickle-Night Group	45.0	43.6	348.3	302.9	96.9	87.0	
6003	#1-2-3 Furn.Flatside	536.6	699.7	4586.1	5130.5	133.1	112.4	
6004	#4-5-6 Furn. Boxside	523.1	563.0	4575.8	4272.2	107.6	93.4	
6005	West. Furnace	615.1	949.9	6397.8	7188.4	154.4	112.4	
6006	Brushers-Day Group	171.3	210.1	409.5	640.1	122.7	156.3	
6007	Brushers-Night Group	161.2	126.7	472.8	426.0	87.6	90.1	
6008	Evaporator Group	76.0	112.5	298.7	220.8	148.0	73.9	
7002	Shr.Press Setup M Fin	1134.6	820.5	9493.6	6204.8	72.3	65.4	
7101	Welding	451.7	473.5	3626.4	3582.9	104.8	98.8	
7102	West Shell Asm.	252.7	291.0	2379.4	2335.6	115.2	98.2	
	Totals-Roberts-Div.	3987.5	4330.2	33725.1	31376.0	102.6	93.0	
5801	Wire Shelf	27.0	5.0	167.2	189.2	18.5	113.2	
5901	Plate & Polish	49.0	70.2	508.1	702.1	143.3	138.2	
5902	Bonderize	165.2	224.2	994.7	1318.4	136.9	132.5	
8006	Line #1 All Porc.	1052.1	864.2	8186.0	7208.2	82.1	88.1	
8102	Water Cooler Assem.	0	0	298.1	325.9	0	109.3	
8201	Line #3 Builders	519.3	352.1	2774.0	2413.1	67.8	87.0	
8202	Line #3 Trim Crate	612.5	604.0	4274.6	3923.1	98.6	91.8	
8304	West 130-180 Assem.	0	0	1093.0	990.1	0	90.6	
8401	Cabinet Paint	862.9	586.4	5062.5	3809.5	65.6	75.2	
8403	Trim Stick Paint	7.2	24.9	84.2	194.3	345.8	230.8	
8408	Water Cooler Paint	0	0	277.8	310.8	0	111.8	
8410	Clean Spray Booth	45.0	52.5	379.0	434.7	116.6	114.7	
	Totals-Washers-Div.	3340.2	2765.8	24099.2	21819.4	82.7	90.5	
	TOTALS- SHOP	8249.5	8368.5	66554.6	62895.2	101.4	94.5	
4702	Service Shipping	73.0	91.5	616.7	614.0	125.3	99.6	
	TOTALS	8322.5	8460.0	67171.3	63509.2	101.6	94.5	

ILLUSTRATION 10

ment should be submitted showing the standard base rate, actual base rate and earned rate for each group. A variation between standard base rate and actual base rate causes fluctuations in cost, and a low earned rate causes labor trouble.

A statement is also necessary once each month showing increased time allowed over the standard, due to changes in process, engineering changes, faulty design, initial production of new units, etc. This is a very important monthly statement, but we find the charges to these accounts have not been high enough thus far to warrant the use of a daily report. The fact remains, however, if at any time an expense or variance item becomes excessive on a monthly statement the manufacturing division should immediately call for daily reports on such items until the excess is reduced.

Productive material reports are also a requirement of the works manager. Purchased parts in new units should be carefully estimated and a predetermined standard arrived at. The accounting department should submit a statement monthly showing the number of such parts purchased, on which the standard cost of each piece is compared with the actual. In most instances, it is merely a matter of additional shopping on the part of the purchasing department to bring these items down to the standard. In some cases the manufacturing department may even produce these parts in their own shop if the purchasing department cannot get the necessary price reduction.

For my topic here this afternoon, however, the most interesting item in productive material costs is that of the so-called bulk materials. By bulk material I mean that class of material which is purchased in bulk form, such as sheets of steel, gallons of paint and board feet of lumber, or pounds of bonderizing powder. The standard cost on this material must be arrived at by first determining the quantity to be used in each unit, and second the purchase price for each pound, foot or gallon, as the case may be. Bulk material, therefore, can show two kinds of cost variations—usage variances and purchase variances.

The usage variance is the important figure from the accounting and shop standpoint. I am afraid that there is very little attention paid to these items in most plants. Let us take steel, for instance. In our estimate, we figure a certain unit requires 50 lbs. of steel. If the planning department requisitions the correct size of sheets and the press shop shears this steel properly, we should only use 50 lbs. per unit. However, for some unknown reason we actually used 65

lbs. of steel in producing this unit. Most accounting departments are content to turn out a statement two or three weeks after the end of each month and disclose the fact that we actually wasted 15 lbs. of steel per unit.

By this time, we have probably produced thousands of additional units, blithely using 15 lbs. of steel more than the estimated quantity per job. By the time we get the statement, the "water is over the dam" and even another month's production has gone by with perhaps the same result. There is only one way to "lick" these usage losses, and that is to submit reports showing the number of pounds of steel issued to your shears daily and the number of pounds of good pieces produced (based on the standard). The difference is loss or gain. If the loss is great the works manager has a chance immediately to do a little investigating in the press shop to determine the nature of the loss and take steps to eliminate or correct the error.

Illustration 11 is a typical daily usage report. In addition to this report our accounting department submits reports showing the number of pounds of steel wasted, the number of board feet of lumber wasted, the excess usage of bonderizing material and excess usage of paint material, etc. I will give you a concrete example of the value of these daily usage reports.

We set up a standard usage of 10 lbs. of bonderizing powder for each 1000 square feet of steel bonderized. For two or three months the variation on this item was only 1% to 2% daily. Suddenly this variation went up to 50%. In other words, we were using 15 lbs. of this powder for every 100 square feet bonderized. The superintendent of this department was immediately called into the office. His first excuse was that the square footage report of the accounting department was not correct. Of course this is an old one, and he was soon convinced that the square footage was correct.

It is necessary in bonderizing metal to add a powder at definite intervals to a tank of hot water in order to maintain the solution at the proper strength, and the superintendent claimed that if he added less powder the solution would be too weak and consequently the steel would not be properly coated. It was also determined that the amount of plating on the steel was no heavier than when we were only using 10 lbs. per 1000 square feet. Therefore, the logical conclusion was that the tanks were leaking. An inspection of the floor under the tanks showed the floor perfectly dry. Believe it or not, we were using 50% more powder, getting no better coverage, and yet

DAILY USAGE REPORT — Class of Material: Porcelain — Unit: Lbs.

		DAY				MONTH				YEAR			
	Date	Actual Usage	Standard Usage	Variance	% Var. to Standard	Actual Usage	Standard Usage	Variance	% Var. to Standard	Actual Usage	Standard Usage	Variance	% Var. to Standard
	May 1932												
Year to Date										1, 732, 552	1, 546, 804	- 185, 748	
Sunday	1												
	2	11, 669	10, 721	- 948	8.8	11, 669	10, 721	- 948	8.8	1, 744, 221	1, 557, 525	-186, 696	11.9
	3	13, 333	10, 780	-2, 553	23.6	25, 002	21, 501	-3, 501	16.3	1, 757, 554	1, 568, 305	-189, 249	12.0
	4	15, 505	10, 690	-4, 815	45.0	40, 507	32, 191	-8, 316	25.8	1, 773, 059	1, 578, 995	-194, 064	12.8
	5	15, 505	10, 421	-5, 084	48.7	56, 012	42, 612	-13, 400	31.4	1, 788, 564	1, 589, 416	-199, 148	12.5
	6	14, 408	9, 940	-4, 468	44.9	70, 420	52, 552	-17, 868	34.0	1, 802, 972	1, 599, 356	-203, 616	12.7
	7	7, 833	6, 803	-1, 330	20.4	78, 253	59, 055	-19, 198	32.5	1, 810, 805	1, 605, 859	-204, 946	12.7
Sunday	8					78, 253	59, 055	-19, 198	32.5	1, 810, 805	1, 605, 859	-204, 946	12.7
	9	17, 140	16, 760	-380	2.3	95, 393	75, 815	-19, 578	25.8	1, 827, 945	1, 622, 619	-205, 326	12.6
	10	13, 916	14, 910	994	6.7	109, 309	90, 725	-18, 584	20.4	1, 841, 861	1, 637, 529	-204, 332	12.4
	11	13, 920	14, 781	861	5.8	123, 229	105, 506	-17, 723	16.7	1, 855, 781	1, 652, 310	-203, 471	12.3
	12	13, 913	14, 732	819	5.6	137, 142	120, 238	-16, 904	14.0	1, 869, 694	1, 667, 042	-202, 652	12.1
	13	15, 353	15, 231	-102	.7	152, 475	135, 469	-17, 006	12.5	1, 885, 027	1, 682, 273	-202, 754	12.0
	14	16, 638	17, 623	985	5.6	169, 113	153, 092	-16, 021	10.4	1, 901, 665	1, 699, 896	-201, 769	11.8
Sunday	15					169, 113	153, 092	-16, 021	10.4	1, 901, 665	1, 699, 896	-201, 769	11.8
	16	17, 780	17, 792	12	-	186, 893	170, 884	-16, 009	9.3	1, 919, 445	1, 717, 688	-201, 757	11.7
	17	14, 408	14, 431	23	-	201, 301	185, 315	-15, 986	8.6	1, 933, 853	1, 732, 119	-201, 734	11.6
	18	10, 124	8, 142	-1, 982	24.3	211, 425	193, 457	-17, 968	9.3	1, 943, 977	1, 740, 261	-203, 716	11.7
	19	10, 084	8, 135	-1, 949	23.9	221, 509	201, 592	-19, 917	9.8	1, 954, 061	1, 748, 396	-205, 665	11.7
	20	12, 229	13, 198	969	7.3	233, 738	214, 790	-18, 948	8.8	1, 966, 290	1, 761, 594	-204, 696	11.6
	21	7, 705	7, 962	257	3.2	241, 443	222, 752	-18, 691	8.3	1, 973, 995	1, 769, 556	-204, 439	11.5
Sunday	22					241, 443	222, 752	-18, 691	8.3	1, 973, 995	1, 769, 556	-204, 439	11.5
	23	17, 458	14, 321	-3, 137	21.9	258, 901	237, 073	-21, 828	9.2	1, 991, 453	1, 783, 877	-207, 576	11.6
	24	13, 314	14, 231	917	6.4	272, 215	251, 304	-20, 911	8.3	2, 004, 767	1, 798, 108	-206, 659	11.4
	25	14, 416	14, 600	184	1.3	286, 631	265, 904	-20, 727	7.7	2, 019, 183	1, 812, 708	-206, 475	11.3
	26	11, 157	12, 122	965	8.0	297, 788	278, 026	-19, 762	7.1	2, 030, 340	1, 824, 830	-205, 510	11.2
	27	8, 593	8, 600	7	-	306, 381	286, 626	-19, 755	6.8	2, 038, 933	1, 833, 430	-205, 503	11.2
	28	— —	— —	—	-	306, 381	286, 626	-19, 755	6.8	2, 038, 933	1, 833, 430	-205, 503	11.2
Sunday	29					306, 381	288, 626	-19, 755	6.8	2, 038, 933	1, 833, 430	-205, 503	11.2
	30	— —	— —	—	-	306, 381	286, 626	-19, 755	6.8	2, 038, 933	1, 833, 430	-205, 503	11.2
	31	— —	— —	—	-	306, 381	286, 626	-19, 755	6.8	2, 038, 933	1, 833, 430	-205, 503	11.2

ILLUSTRATION 11

there were no apparent leaks. This was a real job for the works manager to check. A loss he could never have seen by just looking at the tanks and watching the process. It was suggested we shut the tanks down at 5:00 P.M., measure the depth of the solution and then check again at 7:00 the next morning. The solution level actually dropped 12 inches over night, resulting in a loss of more than 200 lbs. About 10 inches of this drop was due to a leak in the steam pipe in the bottom of the tank, which allowed the solution to "back up" in the steam pipe and ultimately arrive in the sewer. A 2-inch drop in the tank was accounted for by evaporation. The steam joints were repaired and lids were installed on the tanks allowing the evaporation to condense on the lids and drop back into the tanks.

Now our daily reports show only a usage of 9 lbs. per 1000 square feet. A $100.00 loss was replaced by a $50.00 profit daily. It requires less than 15 minutes each day for a clerk in the cost department to obtain data for this report. Is it worth it?

I could cite numerous interesting experiences we have had along the same lines, with paint, lumber, and other bulk material.

In closing, I would like to say just a word or two in regard to standard or predetermined costs. Ten or twelve years ago, I listened to discussions on the advisability of standard costs. I believed, at that time, standard costs were a great step forward in cost accounting, but I also foresaw the big job accountants had to sell this idea to works managers and executives. Today, however, by discussions with accountants and executives from all parts of the country, it is quite evident that the standard cost idea has gathered many converts in the last few years. The greatest advantage in standard cost systems is, that it is not necessary for a works manager to go over multitudes of figures, checking the costs of one month against another month, or one unit against another unit in order to determine whether or not the costs are correct. Let the works manager set his own standards on the basis of past performance in his own company or even get his standards from some other industry. Then the accountant's real job is to report daily the variations against these standards. Here is your comparison idea carried out to the nth degree.

Let me repeat that what the chief executive of the production department requires of the accounting department is daily statements compared with standards or budgets.

In short, give him today a few pertinent figures of yesterday's

operations, so that he will be able to conduct his division of the business economically.

CHAIRMAN CRUSOE: The other half of this picture will be presented by the Assistant Controller of the Kelvinator Corporation, J. J. Timpy. I want to introduce Mr. Timpy.

HOW THE ACCOUNTING DEPARTMENT MEETS THE REQUIREMENTS OF THE MANUFACTURING EXECUTIVE

J. J. TIMPY

Assistant Controller

Kelvinator Corporation, Detroit, Mich.

UNTIL recently many Accounting Departments busied and contented themselves with the task of recording historical data of the various operating divisions of business organizations. Executives used these reports to guide them in formulating plans for future operations.

It is gratifying to find in the later years of good business that most accountants were alert to the changing requirements and demands of the operating executives. Today after having passed more than two years of depression, they have found another department has grown as a parasite in the midst of their accounting division, which can logically be termed, the "Figure Service Department." This was all accomplished more or less gradually. It began in a small way when the operating executives found themselves without equipment to guide their particular end of the operation with any assurance their division was performing within the limits they assumed when the general plan for the year's operations was formulated. They found themselves constantly uneasy as to what result the accountants' statement would show and if it was bad news, they had little opportunity to correct the current month's operations as it was then ten to fifteen days behind them. The manufacturing division executive can be considered the accountant's best ally due to the ramifications of operations which fall under his supervision. He has for the last ten years or more required information in detail, which for a time he found a great help. Due to the long intervals between reports

and the continually increasing demands made on him for quality of product and volume of production, plus decrease in cost of product, he found the monthly or even weekly reports too involved to peruse in the time he found available for this purpose. As I mentioned before, the changes were gradual through a period of years. The chief manufacturing executive realized he had a serious problem to overcome and began to ask for reports oftener on such troublesome items as scrap. The accountant, finding that these reports were being put to good use because of the results obtained, began to sense that the requests for daily reports were not just some individual's hobby. He found an open opportunity for his department to be of real service to the operating executives. By the presentation of intelligent reports daily, and on some items at longer intervals, the accounting department was considered among the operating departments as important, rather than just a necessary overhead department which must be carried along.

We will confine our discussion to the subject of how the accounting department can best furnish the reports and figures required by the production department executives for proper control of their varied functions.

The accounting department chart of accounts and general plan for accumulating the usual figures should be arranged, and in some cases elaborated, so it is possible to furnish daily figures to the production department and then accumulate these figures for the monthly accounting department statements. By this method we safeguard against the possibility of furnishing figures for the daily control of shop operations which may differ from the monthly figures.

On the section of the chart of accounts covering manufacturing operations we arrange for classification of expense so the monthly and year-to-date statement will give sub-totals on the major items of expenditure, as for example:

Non-productive labor
Small tools and factory supplies
Scrap, reworks, etc.
Utility charges
Fixed charges
Sundry expense
Burden variance
Productive labor
Variations from standard costs, etc.

All expense accounts are prefixed with the department number which permits a distribution of department expenditures without additional basic records.

The first operation in setting up a budget is a forecast of sales by units. This forecast should be made at least a month prior to the beginning of the fiscal year and should show estimated shipments of the various units by months for the entire year. The manufacturing department, from this sales forecast, can now set a manufacturing program for the entire year based on this shipping forecast.

We will assume that the production department has already made estimates of the material, labor and burden cost for each unit on this forecast. The accounting department can now calculate the expenditure needed monthly for the productive material, productive labor and the amount of burden that will be absorbed every month. You will note that I have used the word "absorbed" in speaking of overhead. The reason for this is that most companies set up a standard burden rate and the actual absorption of overhead is based on the number of units produced. The actual overhead itself, however, cannot fluctuate directly with the number of units produced, because of fixed charges, etc. Therefore, in setting up the budget or comparison figures for overhead, the overhead expenses should be subdivided into three groups:

Fixed overhead
Semi-fixed overhead
Variable overhead

In determining the amount to be budgeted for each group the accounting department's past history in the form of monthly reports is invaluable. Fixed charges, of course, should run approximately the same for each month. Semi-fixed overhead which consists of such items as power, heat, light, salaries, watchmen's wages, etc., can fluctuate; therefore, a daily report on these items for totals only is issued. Variable overhead should fluctuate in direct proportion to the units produced and is made up of such items as non-productive wages, supplies, scrap, etc. These are the items that each department head watches daily, and concerning which the accounting department submits daily statements. Illustration 1 (See Chart 2 on page 290) shows the daily expense in dollars versus the budget, the accumulated monthly expense versus the budget and the accumulated yearly expense versus the budget. In addition to showing these figures in the

total dollars, they should also show the unit cost of each of these items. The reports furnished by the various divisions are delivered by a specified time each day to the budget division, where they are all assembled in this one report. First a report is issued for each department in the shop and includes all items of controllable expenditures made by the department for the day.

For the purpose of gaining time the reports are in most cases issued by the various divisions of the accounting department responsible for and closest in contact to a particular function—for example the timekeeping department issues the daily force report, the payroll department issues the daily report of salaries—non-productive and productive labor—and the cost accounting department issues the daily reports on small tools, shop supplies, scrap, etc.

We will now dwell more specifically on just how the accounting department tabulates the information contained in this report. As mentioned earlier, this complete report is furnished daily to each superintendent for his own departments—the works manager receiving the total sheet of all divisions.

The budget for salaries on this report is a fixed amount monthly, regardless of production, and is set up at the beginning of the year, consistent with the manufacturing program for the entire year.

The salary payroll is segregated to department totals at the beginning of the month divided by days on a basis of five and one-half days a week, the result being the portion to be taken into expense each day. The budget forecast is then posted for a comparison to the actual expenditure. The budget for non-productive labor in most departments is on a unit basis. The receiving department, for instance, will be allowed 20c for each unit passing the final assembly, the shipping department perhaps 30c for each unit shipped.

The items listed as non-productive hourly wages, reworks, allowances and overtime are all payroll items, and we can, for the purpose of saving time, cover the four items in the one explanation.

Each man on the hourly payroll is given a number when he is hired. Before a man can be hired a requisition for additional employees is originated and signed by the department head. In addition the requisition bears the approval of the division superintendent and the chief manufacturing executive's office. After the employee is hired this requisition remains on file in the employment department and can be referred to in case the department head disputes the charge to his department. A plan for man numbers was put in use

which gives, from the standpoint of department expenditures, a definite control. Each man's number begins with the department number for which he was hired and is then followed by the man's serial number; for instance, man number 28-117 indicates he works in the assembly department No. 28 and is employee number 117 in that department.

Much of the shop labor, both productive and non-productive, is on a group bonus plan. The group members assigned are prefixed with the department number followed by the group serial number—for instance Group No. 2805 indicates Department No. 28, Assembly Group No. 5. To arrive at daily group earnings the total actual hours are computed on the standard base rate.

Illustration 2 is the Daily Payroll Report. After the payroll is figured for the day, the payroll department classifies it in sub-totals to productive labor, non-productive labor, reworks, allowances and overtime, using the account number as a control. Then a distribution is made of these classifications by department expenditure, using as a control the first two digits of the man's number or group number, which indicates the department making the expenditure. You will note it gives payroll expenditures by departments accumulated for the month, and is delivered to the budget department. It might be mentioned at this point that to get this information does in no way disturb the distribution by account number, as this is allowed to accumulate to the end of the month for the monthly accounting department statement.

The daily payroll expense is posted to the Daily Expense Report —Illustration 1—by the budget department. The budget is then computed daily for each department by the number of units produced at the budget allowance, where this method applies. The budgets for the balance of the departments are computed by the established factors and added to the report for comparison with actual expenditures both for the day and accumulated for the month.

Illustration 3 is the Daily Expense Distribution. The budget for the supply items which include small tools, indirect productive material, departmental supplies and maintenance supplies is also based on units produced for most departments. However, some departments, such as watchman, power house, etc., are given a daily budget regardless of units produced.

All items which come under the supply caption are carried in the tool and supply cribs located at advantageous points throughout the

DAILY PAYROLL REPORT

DAILY

DATE June 14, 1932

DATE ISSUED. June 16, 1932 SHEET NO. 1

ACCUMULATIVE FOR MONTH

DEPARTMENTS		PRODUCTIVE LABOR: DAY WORK, PIECE WORK, GROUP WORK	PRODUCTIVE LABOR: SPECIAL	PRODUCTIVE LABOR: SERVICE	PRODUCTIVE LABOR: TOTAL	NON PRODUCTIVE LABOR: HOURLY	NON PRODUCTIVE LABOR: SALARY	NON PRODUCTIVE LABOR: TOTAL	TOTAL PAYROLL	PENALTIES: OVERTIME	PENALTIES: REWORKS	PENALTIES: LEARNING TIME	PENALTIES: IDLE TIME AND ALLOWANCES	ACCUMULATIVE FOR MONTH: PRODUCTIVE	ACCUMULATIVE FOR MONTH: NON PRODUCTIVE	ACCUMULATIVE FOR MONTH: TOTAL	ACCUMULATIVE FOR MONTH: OVERTIME	ACCUMULATIVE FOR MONTH: REWORKS	ACCUMULATIVE FOR MONTH: LEARNING TIME	ACCUMULATIVE FOR MONTH: IDLE TIME AND ALLOWANCES	Salary
Washining	11	157 88			157 88		8 80	8 80	166 68					3819 82	89 70	4111 62		43 34	4 10		202 40
Punch Press	14	92 86	8 36		101 24		9 78	9 78	111 02					2827 79		2852 73					224 94
R. Series	15	25 00	25 06	2 32	52 38				52 38					1675 11		1675 11					
400 Unit	17	88 32		1 28	86 60		13 70	13 70	100 30					1644 17		1959 27					315 10
Total		361 07	33 44	5 60	398 11		32 28	32 28	430 39					9766 59	89 70	10696 75		43 34	4 10		742 44
"AA" Unit	16	321 04			321 04		7 83	7 83	328 87					5734 28		5914 37					180 11
"AB" Unit	18	656 45			656 45				656 45					16778 41		16778 41					
Diamond Boring	23	83 56		1 80	85 18		7 83	7 83	93 01					1963 47		2143 58					180 11
Total		1061 07		1 80	1062 87		15 66	15 66	1078 53					23476 14		23836 38					360 22
Seal Finish	24	183 70			183 70		12 72	12 72	196 42					2075 27	103 88	2471 71					292 56
Total		183 70			183 70		12 72	12 72	196 42					2075 27	103 88	2471 71					292 56
Sub-assembly	22	242 02		3 60	245 62		8 80	8 80	254 42					4555 28	23 51	4781 17		23 51			202 40
L. C. Cabinet	27	61 88	8 46		80 18	7 20		7 20	87 38					2503 53	341 46	2844 99					
Packing	30	66 15	13 45		79 60				79 60					1637 06		1637 06					
Export Packing	31																				
Total		369 85	21 91	3 60	395 38	7 20	8 80	16 00	401 38					8695 84	364 97	9283 21		23 51			202 40
B. Y. Cabinet	28	367 17	168 00	105 13	660 30	35 08	8 80	43 88	704 18		35 08			14006 16	204 55	14415 11		204 55			202 40
Total		367 17	168 00	105 13	660 30	35 08	8 80	43 88	704 18		35 08			14006 16	204 55	14415 11		204 55			202 40
Tank & Boiler	26	680 88		26 05	686 91	2 72	10 87	13 59	700 50					14098 61	4 90	14353 84					250 03
Liq. Rec. & Cond.	29	108 37			108 37				108 37					1938 56	8 64	1947 20					
Total		788 25		26 05	792 28	2 72	10 87	13 59	808 87					16037 17	13 54	16300 74					250 03
Oil Burners	20						19 13	19 13	19 13							440 01					440 01
Total Productive Divisions		3119 11	228 37	129 96	3482 44	45 00	108 26	153 26	3635 70					74055 27	776 64	77321 87					2490 06
Planning	61						134 67	134 67	134 67							3097 39					3097 39
Receiving	62					78 03	11 57	89 60	89 60						1733 68	1999 77					266 09
Store Room	65					313 29	25 65	338 94	338 94						6471 52	7061 49					589 97
Warehouse	64																				
Shop Trucking	66																				
By-products	68					25 65		25 65	25 65						639 13	639 13					
Shipping	67					217 09	9 78	226 87	226 87						4493 46	4716 40					224 94
Trucking & Delivery	69					22 83		22 83	22 83						517 33	517 33					
Total						656 89	181 67	838 56	838 56						12855 12	18033 51					4178 89
Traffic	99						17 61	17 61	17 61							405 01					405 01
Total							17 61	17 61	17 61							405 01					405 01
Watchman	97					40 20	15 65	55 85	55 85						1219 80	1579 77					359 97
Total						40 20	15 65	55 85	55 85						1219 80	1579 77					359 97
TOTAL PAY ROLL		3119 11	228 37	129 96	3482 44	742 09	325 19	1066 28	4547 72		35 08			74055 27	15851 56	97340 16		271 40	4 10		7432 43

ILLUSTRATION 2

Date June 14, 1932.
Issued June 16, 1932.

Daily Expense Distribution

DEPARTMENTS	Indirect Material Daily	Indirect Material Accum.	Small Tools Daily	Small Tools Accum.	Dept. Supplies Daily	Dept. Supplies Accum.	Mainten. Supplies Daily	Mainten. Supplies Accum.	Total Supplies Daily	Total Supplies Accum.	Scrap Material Daily	Scrap Material Accum.	Tool Room Labor Daily	Tool Room Labor Accum.	Mainten. Labor Daily	Mainten. Labor Accum.
Machine Dept. 11	18 72	272 26	17 31	197 08	5 88	74 48	1 57	354 99	43 48	698 81	6 23	11 48	3 35	70 83	14 70	99 50
Punch Press 14		1 98		21 49	50	30 42	2 25	164 89	2 75	219 18	45 37	46 40	11 35	302 50	70	12 16
Comm'l. Unit Assembly 15		1 92		4 21	60	34 83	57	103 43	1 17	144 39	18 03	18 03		4 80	3 00	44 54
Comm'l.Comp.Mach. & Ass'y. 17		51	22 95	145 49	2 47	21 08	7 87	31 79	32 79	196.84	3 89	31 35	2 07	82 27	4 78	68 18
Sub-Total		4 41	22 95	169 59	5 87	86 30	10 19	300 11	36 71	560 41	67 29	97 78	13 42	390 27	8 45	124 90
Dom. Unit Ass'y. 18		77 35	6 46	50 15	26	13 70	05	203 57	6 77	344 75	75	14 74			7 25	95 25
Dom. Comp. Mach. & Ass'y. 18	16 85	109 91	33	563 02	6 54	140 75	2 16	486 11	25 90	1319 79	14 39	70 82	18 18	381 36	17 95	178 04
Dom. Unit Repair 19		5 43		4 30		48	24	6 39	24	14 60				5 87		55
Diamond Boring 23			94 59	304 94	6 08	49 53		206 29	100 87	562 76	7 24	23 09	2 90	48 45	5 85	59 27
Seal 24		6 00	3 38	105 52	1 24	29 55	6 43	80 55	11 25	196 62		76		26 25	1 50	8 85
Sub-Total	16 85	195 89	104 76	1045 91	14 12	234 01	9 10	964 91	144 83	2440 52	22 38	109 41	21 08	461 72	32 55	339 76
Sub-Assembly 22		16 84		13 76	75	135 58	98	100 50	1 33	266 68	2 94	32 99		21 46	1 05	76 06
I. C. Cabinet 27		11 03	5 60	59 68	1 05	24 04	8 04	87 66	14 69	182 63		43 63		20 98	13 26	42 48
Dom.Cab. & Water Cooler Assy28	80	43 15	76	30 23	8 22	168 21	62 85	525 73	72 63	567 32	17 70	165 34		13 16	12 75	232 04
Domestic Packing 30						139 43				139 43						1 40
Export Packing 31		12				83 16				83 28						
Sub-Total	80	71 14	6 36	103 87	10 02	550 42	71 47	513 91	88 65	1239 34	20 64	242 16		55 61	27 06	401 98
Tank,Boil.&Copper Tube Assy 36	27 16	361 64		299 14	57	62 26	1 22	241 27	28 95	964 30	1 26	57 84	15 50	180 03	9 75	82 88
Liquid Rec. & Cond. Assy. 39		419 73		8 46	2 09	113 34	60	214 88	2 69	786 41			1 13	92 13	13 97	83 23
Sub-Total	27 16	781 37		307 60	2 66	176 59	1 82	456 15	31 64	1720 71	1 26	57 84	16 63	272 16	23 72	166 11
Total Productive Depts.	65 55	1324 87	158 03	1830 70	36 25	1120 80	104 43	2740 66	362 24	7017 08	117 76	618 65	54 48	1250 59	126 12	1852 67
Planning & Follow-Up 51															1 30	1 30
Receiving 52						18 35		27		13 62						3 20
Stores 53				56 56		11 17	55	7 62	56	85 35	11 17	27 88		9 20	9 75	98 08
By-Products 56						1 00		4 50		5 50					1 05	10 71
Shipping 57				07		139 55		57 68		197 31					2 10	13 60
Trucking & Delivery 58						190 81		49 38		240 19						70
Sub-Total				56 63		355 89	55	119 45	55	541 97	11 17	27 88		9 20	14 20	127 59
Tool Design 60						2 00				2 00						
Tool Room 61			5 34	46 38		39 02		50 06	5 34	135 46			2 66	129 44		2 80
Tool Cribs 62			10 00	10 00					10 00	10 00						
General Maintenance 63			22 02	53 91	6 60	25 55	05	38 53	28 65	117 99			8 10	30 90	38 63	430 75
Steam Plant 64				1 19		14 75		195 43		211 37				1 98	1 13	4 88
Janitors 66					57	121 60			57	121 60					5 25	54 50
General Factory Maintenance 79							2 43	100 18	2 43	100 18					11 45	156 85
Sub-Total			37 36	111 48	7 17	202 92	2 48	384 20	46 99	698 80			10 76	162 32	56 68	649 78
Watchman 67						51				51						
Personnel 81								1 96		1 96						2 80
Sub-Total						51		1 96		2 47						2 80
GRAND TOTAL	65 55	1324 87	188 74	2002 16	43 42	1680 12	97 16	3095 86	592 85	6102 85	128 93	646 53	65 26	1422 11	177 33	1912 42

ILLUSTRATION 3

shop. Before an employee can receive any tools or supplies from the crib, he presents a requisition which clearly describes the item, what it is to be used for, etc., and is signed by the department head, who authorizes this as an expenditure against his department. The requisitions are turned in to the cost department each day where the items are valued at cost. A distribution is then issued in sub-totals by classes of supplies. Then a distribution is made of these classifications by department expenditures. The cost department delivers this report to the budget department. You will note it gives expenditures by departments accumulated for the month.

The daily supply expense is posted to the daily expense report by the budget department. The budget is computed daily for each department by the established budget factors and added to the report for comparison with actual expenditures both for the day and accumulated for the month.

Scrap is budgeted on a unit basis. All material damaged beyond repair in the production process is reported on scrap tickets. The scrap ticket form gives complete information as to part number, name, quantity, nature of defect, department responsible for the defect, etc. The scrap tickets are sent to the cost department each morning where the items are valued at cost and a distribution is made, giving each department's expense in total, and is reported to the budget department as a part of the daily expense distribution on which is given the expense by departments accumulated for the month. The scrap expense is posted to the daily expense report by the budget department. The budget is computed daily for each department by the established allowance and is added to the report for comparison with actual expenditures, both for the day and accumulated for the month.

The items on this statement of tool room labor and maintenance labor are a breakdown of the labor which is included in the daily expense report—as non-productive labor under maintenance and tool room departments. Most of the maintenance work and tool repairs are performed for the various shop departments.

The department which requires work to be done calls on the maintenance and tool room departments for service and the department head requesting the service signs a maintenance work slip on which is recorded the total hours it took to do the work and the nature of the work. This signed maintenance work slip is turned over to the timekeeper each day where it is checked, correct account number, etc., entered after which he forwards it to the payroll department. The

payroll department use this slip as their authority to pay the man who performed the work, and also include this in their payroll distribution as a part of the daily expense; and, in addition, a further distribution is made by account number which gives the amount of maintenance chargeable to each department for the service it was rendered. This breakdown is delivered to the cost department where it is included on the daily expense distribution.

Illustration 4 is the Daily Expenditure Report. (See Chart 7 on page 297.) To give the chief manufacturing executive a general control of all items of expenditure for the manufacturing division, the accounts payable department furnishes the budget division with a daily report of expenditures, which gives the expenditures by classes for the day, and accumulated for the month and for the year. You will note the accounts are classified on this report as:

Productive material
Freight
Productive labor
Permanents
Sub-totals of these items
Salaries
Non-productive wages
Non-productive material
Dies, jigs and gauges
Traveling Expense
Telephone and telegraph
Fuel
Power, water, gas
Miscellaneous
Sub-total of these items
Grand Total of the entire shop expenditures

The accounts payable department sorts all vendors' invoices received for the day to classes of items shown on this illustration. Each classification of invoices is then added on an adding machine and the total is placed on the report opposite the correct class and is accumulated for the month and for the year. The payroll figures are furnished by the payroll department in totals for each classification as salaries, non-productive wages and productive labor. These figures are taken from the daily payroll report mentioned earlier.

Illustration 5 is the Daily Force Report. (See Chart 5 on page 295.) Each morning one-half hour after the employees have rung in, the timekeepers pull all clock cards and count the number of employees remaining at work and make a separate count of the number absent. In cases where employees ring out again within the first half hour their cards are included among the absent. You will note in the first column productive employees. The second grouping is non-productive employees. The third grouping is salaried employees and the fourth grouping is total employees. Each department is also listed on this report with subtotals for the various divisions. Under each classification of labor, that is, productive, non-productive, and salary, you will notice a column showing number of employees on the payroll, the number of employees ringing in and the number of employees absent.

Illustration 6 is the Daily Group Efficiency Report (See Chart 10 on page 301) which is issued by the payroll department and submitted to the chief manufacturing executive the following day. This report gives a comparison of group efficiency for the day and accumulated for the pay period. The information is taken from each group sheet, which was debited for the total number of actual hours worked in the group. From the daily production report the group is credited for the total production computed by the standard time established for the items produced. We thus arrive at the actual hours compared to standard hours which, when computed, gives the group's daily efficiency percentage. All group percentages are posted on blackboards in each department daily and accumulated for the pay period.

In addition, a group summary statement is issued at the end of each pay period. This information is merely a coordinated statement of the results shown on each group's pay sheets after they are computed for payroll purposes. The important data is accumulated for the year and shows the year's variation from standard base rates.

The daily material usage report is considered very important particularly where the product manufactured is fabricated from bulk items as sheet steel, lumber, paint, bonderize coat, copper, solder, etc. It seldom happens on such items that the quantity, plus waste allowance in actual performance, is the amount calculated for the various parts when the standard cost is computed.

Illustration 7 is the Daily Porcelain Usage Report (See Chart 11, on page 304) and it also gives the accumulated performance for the month to date and the year to date. For the purpose of daily information on this item the cost department receives a copy each day

PORCELAIN USAGE REPORT
AT FEBRUARY - 1932

	MONTH					YEAR TO DATE			
Gross square feet produced			671,663				3,813,689		
Less: square feet of reworks			23,764				171,860		
Net square feet produced			647,901				3,641,828		
Bulk No.	Ingredients	Price per lb.	Amount Used	Value	Actual Cost per sq. ft.	Weight per sq. ft.	Amount used	Value	Actual Cost per sq. ft.	Weight per sq. ft.
201463	White frit	.0614	165,700	$10,173.98	$.01570	.25574	1,038,428	$63,759.48	$.01750	.28533
201353	Ground coat frit	.0670	95,750	6,415.25	.00990	.14778	526,983	35,307.86	.00969	.14471
201430	Tin oxide	.2345	9,173	2,151.19	.00332	.01415	54,012	12,666.09	.00347	.01483
201431	Vallandar Clay	.0124	17,666	219.06	.00033	.02726	104,532	1,296.19	.00036	.02871
	Black oxide	1.1000	10	11.00	.00001	.00001	104	114.95	.00003	.00002
201464	Black edging frit			-0-			1,000	61.40	.00001	.00002
201432	Borax	.0235	882	20.74	.00003	.00136	4,849	113.98	.00003	.00134
201429	Blue gray oxide	1.3500	12	16.20	.00002	.00001	69	93.15	.00002	.00001
17178	Feldspar	.01075	610	6.56	.00001	.00094	1,910	20.54	.00001	.00052
201436	Magnesium Carbonate	.0744	207	15.44	.00002	.00032	683	50.87	.00001	.00018
			290,010	$19,029.42	$.02934	.44757	1,732,670	$113,484.41	$.03112	.47567
Porcelain materials absorbed in standard cost				23,560.06				132,430.12		
Porcelain usage credit				4,530.64				18,945.71		
Ratio:			1 ground coat to 1.73 White				1 ground coat to 1.97 White			

ILLUSTRATION 8

of the stock disbursement report which gives the pounds of various porcelain frit ingredients placed in the mills. From history and knowledge of this type of material a standard in fraction of pounds for each ingredient is set up to produce a square foot of porcelain. We have gone further and from the porcelain frit formulae we have established a standard ratio. That is the portion of ground coat frit and the portion of white coat frit allowed to produce a square foot of porcelain. On this report we get a comparison of actual porcelain ingredients used against the standard amounts allowed both for the day and accumulated for the month and for the year.

Each month, by the use of the accumulated daily figures, Illustration 8 is prepared which gives the dollar variance, plus or minus, in addition to the variance in pounds used and the deviation from standard ratio of ground coat to white coat ingredients. This report also gives this information accumulated for the year.

The usage reports such as for steel and lumber do not involve the same factors of calculation to get the deviation from the amount set up in standard costs but likewise it is necessary to get an accurate daily report of material disbursed to in-process. The amount disbursed is translated into square feet of steel, board feet of lumber, etc. The production of steel or lumber parts is also translated to square feet or board feet in accordance with the standard dimensions of the square sheared size of the steel parts and the dimension mill size of the wood parts produced. To the accumulated square feet or board feet of parts produced we add the standard shearing or cutting waste percentage for the particular class of steel or wood parts. These two calculations give total feet of material disbursed and total feet of parts produced plus feet of waste allowed. The difference between total feet used and total feet produced, plus waste allowed gives the deviation from the amount set up in our standard cost.

You will note by tying this in with our standard costs we insure that the in-process inventory is relieved of total materials of this class used to produce a given number of units. We relieve inventory of the standard cost value of units produced and, depending on the results shown by the reports, we relieve or charge back to in-process the variance.

Most of you are familiar with standard costs and standard cost variance accounts. The two major and direct elements of standard costs with which we must deal are direct materials and direct labor.

Material purchase variances represent the deviation from stand-

ard cost on purchase price of materials. At the beginning of the fiscal year the purchasing department report the cost at which they will be able to purchase the complete line of materials. They will take some of the items from quotations, some from contracts in force and other items from current market quotations which they adjust in accordance with the probable future market trends.

This is used by the cost department for computing the material standard cost of units. The purchase invoices, after the customary checking and approvals, are accumulated until the end of the month. At the end of the month a complete tabulation is made of all material purchases by part number, quantity purchased and total purchase price. From this tabulation we value each part at the standard cost and make extension of the total parts purchased. The difference between the total purchases at actual cost and the total purchases at standard cost represents the plus or minus material purchase variance.

Direct labor variances represent the deviation from standard cost on direct labor operations performed on the product. At the beginning of the fiscal year the time study department issues routing sheets to cover all operations to be performed in the shop to produce complete line of parts, assemblies and units. The routing sheets give complete information as to the operations performed in each department and the standard time established for each operation. The routings are used by the cost department to arrive at the standard labor costs and the standard burden costs. In cases where the unit is re-designed a complete new standard cost is set up; otherwise increases or decreases in standard time are taken into the labor variance account for the value of the change in direct labor, but no burden is absorbed on the labor variance.

In passing over the foregoing, I am reminded of a story which before the depression was considered a joke. Now it might almost be a comparison. It would be hard to find a business man who is not in the same quandary as the man who operated a saw-mill in Arkansas and finally decided to hire an accountant to explain things to him. When the accountant arrived in the sketchy little town where the saw-mill operated, he was met by the owner. "Wal, stranger," said the old-timer, "it's this way. My father-in-law died a few years ago and left me the mill; my three boys run it, so it don't cost nothin' for wages; I steal all the timber, so that's free; my brother-in-law is division freight agent on the railroad and he sneaks all the lumber

out for me and that costs me nothin'. Now what I want to know is—how in hell did I run behind six hundred dollars last year?"

CHAIRMAN CRUSOE: It has been quite evident to those who follow financial news that something good has been happening in the Kelvinator Corporation. I was prompted, in getting these two gentlemen to talk, by the reputation which the Kelvinator Corporation is making for itself in knowing how to look after its business. I think it is quite evident to all of you here that Mr. Timpy and Mr. Smith are doing a good job in that institution.

The next speaker has a talk that will take just about five minutes, which we thought would sum up, to a certain extent, the general idea back of the convention program. I want to introduce to you L. J. McCarren, who is the Chief Cost Accountant for the Fisher Body Corporation.

MR. L. J. McCARREN: There is much that could be said on the subject of accounting as a basis for production control, but after all is said and done, it appears to me that the true function of the accounting department is to place a dollar sign before those departures from the straight and narrow path which leads the way to commercial success.

It is my thought that the work of the accountant in an industrial enterprise revolves around three major factors—correct overall quantity of product, timely appearance on the market, and correct basic costs. Let us take each of these factors in turn.

After proper field research and a determination of the reasonably correct overall quantity, it is the duty of the accountant to show the most profitable operating speed and to set up figure work which places a price upon departures from that production schedule which yields the greatest return.

Secondly, there is the question of the timeliness of the product. A product brought on the market at an unseasonable time will result in failure, and yet a product can be brought into the market at the right time and all profit sacrificed because of the exorbitant starting costs. Again, the accountant should have his figure machinery so set up as to show and follow closely any departures from the plan of origination of product which spells the most profit.

Third, it is the duty of the accountant to so analyze and set up the probable cost of the product as to be in a position to show definitely

what the proper basic cost of the product must be; in other words, define clearly the size of the package which may be given for the price.

Everything the controller does should be carried out with an eye to the effect on the company pocketbook. He should map out completely the road which leads to commercial success and design all his system so that if it is followed all interests in the business will be equitably served, and at the same time set up those controls which will instantly show, and place a figure with a dollar sign before it, any and all departures from that straight and continually narrowing road to prosperity. Thank you.

CHAIRMAN CRUSOE: Gentlemen, the hour is getting late. It falls to me to close the convention.

I want to say that the Detroit Chapter has been very happy to entertain you. We hope that you have enjoyed yourselves. We hope that you have gained something from the technical sessions. We hope to see you again next year at the convention.

In the meantime what we would like to have from all concerned is constructive suggestions as to what you think would constitute a good program for next year. The National Association of Cost Accountants wants to keep pace with changing conditions. We can do that only by suggestions from the men who are really on the firing line. Please, if you will, think about next year's program and let us have your suggestions.

I think this year's program marks an entirely new era insofar as accounting is concerned, because we have taken a big step away from the "bookish" part of accounting and are now definitely establishing the place of accounting in an industrial enterprise.

I want to say again to you that Detroit has been very happy to have you as its guests. Good-night, and God bless you.